



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

# PRELIMINARY ISSUE

650.9610

Job Sheet 212077



Part No: 650.9610

Job Qty: 7 pcs

Part Name: Electric Valve Body



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 8/5/20

Job Tracking No:

Due Date: 8/27/20

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG 650.9600 REV PB1 IPP REV A 20.06.24 NEW ISSUE FK VERIFY DD

Ship Via:

139 VALVE

## Bill of Materials

## Job Routing

| Op No | Operation    | Qty   | Start Date | Due Date | Standard  |         | Workcenter/Supplier | Sign-off           |
|-------|--------------|-------|------------|----------|-----------|---------|---------------------|--------------------|
|       |              |       |            |          | Setup Hrs | Run Hrs |                     |                    |
| 100   | SL-2500Y - 1 | 7 pcs | 8/19/20    | 8/19/20  | 1.00      | 2.33    | SL-2500Y - 1        | <i>[Signature]</i> |
| 110   | QC 2         | 7 pcs | 8/19/20    | 8/19/20  | 0.00      | 0.00    | QC 2 - 1            |                    |
|       |              |       |            |          |           |         | QC 2 - 12           |                    |
|       |              |       |            |          |           |         | QC 2 - 14           |                    |
|       |              |       |            |          |           |         | QC 2 - 17           |                    |
|       |              |       |            |          |           |         | QC 2 - 19           |                    |
|       |              |       |            |          |           |         | QC 2 - 2            |                    |
|       |              |       |            |          |           |         | QC 2 - 20           |                    |
|       |              |       |            |          |           |         | QC 2 - 22           |                    |
|       |              |       |            |          |           |         | QC 2 - 23           |                    |
|       |              |       |            |          |           |         | QC 2 - 25           |                    |
|       |              |       |            |          |           |         | QC 2 - 32           |                    |
|       |              |       |            |          |           |         | QC 2 - 33           |                    |
|       |              |       |            |          |           |         | QC 2 - 35           |                    |
|       |              |       |            |          |           |         | QC 2 - 39           | <i>[Signature]</i> |
|       |              |       |            |          |           |         | QC 2 - 4            |                    |
|       |              |       |            |          |           |         | QC 2 - 40           |                    |
|       |              |       |            |          |           |         | QC 2 - 44           |                    |
|       |              |       |            |          |           |         | QC 2 - 45           |                    |
|       |              |       |            |          |           |         | QC 2 - 48           |                    |
|       |              |       |            |          |           |         | QC 2 - 49           |                    |
|       |              |       |            |          |           |         | QC 2 - 50           |                    |
|       |              |       |            |          |           |         | QC 2 - 51           |                    |
|       |              |       |            |          |           |         | QC 2 - 52           |                    |
|       |              |       |            |          |           |         | QC 2 - 57           |                    |
|       |              |       |            |          |           |         | QC 2 - 62           |                    |
|       |              |       |            |          |           |         | QC 2 - 63           |                    |
|       |              |       |            |          |           |         | QC 2 - 8            |                    |
|       |              |       |            |          |           |         | QC 2 - 66           |                    |
|       |              |       |            |          |           |         | QC 2 - 64           |                    |
|       |              |       |            |          |           |         | QC 2 - 65           |                    |



Container No: S292819



Part: 650.9610

Job No: 212077

Serial No/Batch: S292819

Revision: REV-PB1

Inspector:

Exp Date:

Instructions:

1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 613 632-5200  
Email: sales@dartaero.com  
www.dartaerospace.com

Date: 08/08/20

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|                       |       |         |            |                    |             |
|-----------------------|-------|---------|------------|--------------------|-------------|
|                       |       |         |            | QC 2 - 5           |             |
|                       |       |         |            | QC 2 - 71          |             |
|                       |       |         |            | QC 2 - 73          |             |
|                       |       |         |            | QC 2 - 69          |             |
|                       |       |         |            | QC 2 - 76          |             |
|                       |       |         |            | QC 2 - 86          |             |
|                       |       |         |            | QC 2 - 83          |             |
| 112 HAAS 5 Axis - B4B | 7 pcs | 8/20/20 | 0.75 14.00 | HAAS - 1 - 5 - B4B | JF 20-08-19 |
|                       |       |         |            | HAAS - 2 - 5 - B4B |             |
| 114 QC 2              | 7 pcs | 8/20/20 | 0.00 0.00  | QC 2 - 1           |             |
|                       |       |         |            | QC 2 - 12          |             |
|                       |       |         |            | QC 2 - 14          |             |
|                       |       |         |            | QC 2 - 17          |             |
|                       |       |         |            | QC 2 - 19          |             |
|                       |       |         |            | QC 2 - 2           |             |
|                       |       |         |            | QC 2 - 20          | JF 20-08-19 |
|                       |       |         |            | QC 2 - 22          |             |
|                       |       |         |            | QC 2 - 23          |             |
|                       |       |         |            | QC 2 - 25          |             |
|                       |       |         |            | QC 2 - 32          |             |
|                       |       |         |            | QC 2 - 33          |             |
|                       |       |         |            | QC 2 - 35          |             |
|                       |       |         |            | QC 2 - 39          |             |
|                       |       |         |            | QC 2 - 4           |             |
|                       |       |         |            | QC 2 - 40          |             |
|                       |       |         |            | QC 2 - 44          |             |
|                       |       |         |            | QC 2 - 45          |             |
|                       |       |         |            | QC 2 - 48          |             |
|                       |       |         |            | QC 2 - 49          |             |
|                       |       |         |            | QC 2 - 50          |             |
|                       |       |         |            | QC 2 - 51          |             |
|                       |       |         |            | QC 2 - 52          |             |
|                       |       |         |            | QC 2 - 57          |             |
|                       |       |         |            | QC 2 - 62          |             |
|                       |       |         |            | QC 2 - 63          |             |
|                       |       |         |            | QC 2 - 8           |             |
|                       |       |         |            | QC 2 - 66          |             |
|                       |       |         |            | QC 2 - 64          |             |
|                       |       |         |            | QC 2 - 65          |             |
|                       |       |         |            | QC 2 - 5           |             |
|                       |       |         |            | QC 2 - 71          |             |
|                       |       |         |            | QC 2 - 73          |             |
|                       |       |         |            | QC 2 - 69          |             |
|                       |       |         |            | QC 2 - 76          |             |
|                       |       |         |            | QC 2 - 86          |             |
|                       |       |         |            | QC 2 - 83          |             |
| 120 QC 8              | 7 pcs | 8/20/20 | 0.00 0.00  | QC 8 - 12          | mk 20/08/20 |
|                       |       |         |            | QC 8 - 14          |             |
|                       |       |         |            | QC 8 - 17          |             |
|                       |       |         |            | QC 8 - 20          |             |
|                       |       |         |            | QC 8 - 25          |             |
|                       |       |         |            | QC 8 - 3           |             |
|                       |       |         |            | QC 8 - 32          |             |
|                       |       |         |            | QC 8 - 33          |             |
|                       |       |         |            | QC 8 - 35          |             |
|                       |       |         |            | QC 8 - 39          |             |
|                       |       |         |            | QC 8 - 4           |             |
|                       |       |         |            | QC 8 - 44          |             |
|                       |       |         |            | QC 8 - 45          |             |



8/5/2020

[Dart Hawkesbury] Job Sheet - Lajeunesse, Marie

|     |                               |                    |         |           |                        |                        |
|-----|-------------------------------|--------------------|---------|-----------|------------------------|------------------------|
|     |                               |                    |         |           | QC 8 - 49              |                        |
|     |                               |                    |         |           | QC 8 - 58              |                        |
|     |                               |                    |         |           | QC 8 - 8               |                        |
|     |                               |                    |         |           | QC 8 - 9               |                        |
|     |                               |                    |         |           | QC 8 - 68              |                        |
|     |                               |                    |         |           | QC 8 - 67              |                        |
|     |                               |                    |         |           | QC 8 - 1 (A)           |                        |
|     |                               |                    |         |           | QC 8 - 47              |                        |
|     |                               |                    |         |           | QC 8 - 40              |                        |
|     |                               |                    |         |           | QC 8 - 52              |                        |
|     |                               |                    |         |           | QC 8 - 23              |                        |
|     |                               |                    |         |           | QC 8 - 57              |                        |
|     |                               |                    |         |           | QC 8 - 76              |                        |
|     |                               |                    |         |           | QC 8 - 61              |                        |
|     |                               |                    |         |           | QC 8 - 66              |                        |
|     |                               |                    |         |           | QC 8 - 73              |                        |
|     |                               |                    |         |           | QC 8 - 82              |                        |
| 130 | Outsource - 17 - Passivate    | 7 pcs              | 8/27/20 |           | GRO002-VC              | 5 <i>DA 2020-08-25</i> |
| 140 | Packaging 2-1 - Receive - B4B | 7 pcs              | 8/27/20 | 0.00 0.00 | Packaging 2 - 1 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 2 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 3 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 5 - B4B  | <i>ME AUG 31 2020</i>  |
|     |                               |                    |         |           | Packaging 2 - 4 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 6 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 7 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 8 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 9 - B4B  |                        |
|     |                               |                    |         |           | Packaging 2 - 10 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 11 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 12 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 13 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 14 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 15 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 16 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 17 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 18 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 19 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 20 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 21 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 22 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 23 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 24 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 25 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 26 - B4B |                        |
|     |                               |                    |         |           | Packaging 2 - 37 - B4B |                        |
| 150 | QC 6                          | 7 pcs              | 8/27/20 | 0.00 0.00 | QC 6 - 9               |                        |
|     |                               |                    |         |           | QC 6 - 68              |                        |
|     |                               |                    |         |           | QC 6 - 61              | <i>DAS 82</i>          |
|     |                               |                    |         |           | QC 6 - 40              | <i>9-89</i>            |
|     |                               |                    |         |           | QC 6 - 81              |                        |
|     |                               |                    |         |           | QC 6 - 82              | <i>SEP 11 2020</i>     |
| 160 | Packaging 3-1 - Stock - B4B   | 7 pcs              | 8/27/20 | 0.00 0.00 | Packaging 3 - 1 - B4B  |                        |
|     |                               | <i>6 pcs. mtd.</i> |         |           | Packaging 3 - 2 - B4B  |                        |
|     |                               |                    |         |           | Packaging 3 - 3 - B4B  | <i>✓</i>               |
|     |                               |                    |         |           | Packaging 3 - 4 - B4B  | <i>DAS 28</i>          |
|     |                               |                    |         |           | Packaging 3 - 5 - B4B  | <i>9-89</i>            |
|     |                               |                    |         |           | Packaging 3 - 6 - B4B  |                        |
|     |                               |                    |         |           | Packaging 3 - 7 - B4B  |                        |
|     |                               |                    |         |           | Packaging 3 - 8 - B4B  | <i>SEP 24 2020</i>     |



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|                |       |         |      |      |                        |             |
|----------------|-------|---------|------|------|------------------------|-------------|
|                |       |         |      |      | Packaging 3 - 9 - B4B  |             |
|                |       |         |      |      | Packaging 3 - 10 - B4B |             |
|                |       |         |      |      | Packaging 3 - 11 - B4B |             |
|                |       |         |      |      | Packaging 3 - 12 - B4B |             |
|                |       |         |      |      | Packaging 3 - 13 - B4B |             |
|                |       |         |      |      | Packaging 3 - 14 - B4B |             |
|                |       |         |      |      | Packaging 3 - 15 - B4B |             |
|                |       |         |      |      | Packaging 3 - 16 - B4B |             |
|                |       |         |      |      | Packaging 3 - 17 - B4B |             |
|                |       |         |      |      | Packaging 3 - 18 - B4B |             |
|                |       |         |      |      | Packaging 3 - 19 - B4B |             |
|                |       |         |      |      | Packaging 3 - 20 - B4B |             |
|                |       |         |      |      | Packaging 3 - 21 - B4B |             |
|                |       |         |      |      | Packaging 3 - 22 - B4B |             |
|                |       |         |      |      | Packaging 3 - 23 - B4B |             |
|                |       |         |      |      | Packaging 3 - 24 - B4B |             |
|                |       |         |      |      | Packaging 3 - 25 - B4B |             |
|                |       |         |      |      | Packaging 3 - 26 - B4B |             |
|                |       |         |      |      | Packaging 3 - 37 - B4B |             |
| 170 QC 21 - SA | 7 pcs | 8/27/20 | 0.00 | 0.00 | QC 21 - SA - 21        | DAS         |
|                |       |         |      |      |                        | 77          |
|                |       |         |      |      |                        | 9-89        |
|                |       |         |      |      |                        | SEP 24 2020 |

Part Op 100 - \*\*\*CRITICAL PART - EXTREME CARE MUST BE TAKEN\*\*\* 1-Machine as per folio FD318 FOLIO REV:  
 Descriptions: AA DWG REV: PB 2 2-Deburr  
 110 - QC2- Inspect parts off machine FAI/FAIB  
 112 - \*\*\*CRITICAL PART - EXTREME CARE MUST BE TAKEN\*\*\* 1-Machine as per folio FD318 FOLIO REV:  
                     DWG REV:                      2-Deburr  
 120 - QC8- Inspect parts - second check  
 130 - -Issue P/O; 41954 PASSIVATE IAW QQ-P-35C, TYPE II -Material type; 303 stainless steel -Certificate of  
 Conformity is required  
 140 - Certificate of Conformity is required  
 150 - QC6- All purchased or subcontracted products  
 160 - Identify as per dwg & Stock  
 170 - QC21- Final Inspection - Work Order Release

## Job BOM

| Part / Item | Component Name       | Quantity    | Operation        | Container |
|-------------|----------------------|-------------|------------------|-----------|
| M303R2.750  | 303 Round Bar 2.750" | 7 ft (1 ea) | 100-SL-2500Y - 1 | S 289696  |

## Job Allocations

| Operation        | Component Part | Required | Inventory | Allocated |
|------------------|----------------|----------|-----------|-----------|
| 100-SL-2500Y - 1 | M303R2.750     | 7        | 10        | 0         |

## Part Specifications

Specifications could not be found.

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Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------|--|
| Job: <u>212077</u><br>Part No. <u>650.9610</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | <b>DISPOSITION</b><br>Rework <input checked="" type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | <b>DEPARTMENT/PROCESS</b><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier Quality <input type="checkbox"/> </div> </div> |  |                                                  |  |
| Date : <u>08/18/2020</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Sequence #: <u>112</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | QTY Affected : <u>7</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | DAS (QSI042)<br><b>51</b><br>9-89 <u>8/18/19</u> |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                  |  |
| 6-32 Thread depth was 0.214 is 0.245                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | This deviation is acceptable.<br>This change was made to ensure that the mating socket head cap screw does not bottom out during assembly.<br>Acceptable per attach email.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | Completed By                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | DAS<br><b>20</b><br>9-89 <u>2008-23</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | Lead hand / Supervisor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | QC / QA Coordinator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | DAS<br><b>9</b><br>9-89 <u>20-9-24</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                  |  |
| <b>Root Cause</b><br><div style="display: flex; flex-direction: column;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input type="checkbox"/></div> <div>Handling/Preservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input checked="" type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div> |  | <b>FAULT CATEGORY</b><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled         </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination<br/> <input type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input checked="" type="checkbox"/> Fit/Function         </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up         </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread         </div> </div> |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  | Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                  |  |

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of the various parts of the various parts



Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                           |                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Job: <u>212077</u><br><br>Part No. <u>650.9610</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>DISPOSITION</b><br><br>Rework <input checked="" type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input checked="" type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Cross tube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/> </div> <div>           Eng. (Non-AW) <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Water Jet <input type="checkbox"/><br/>           Supplier Quality <input type="checkbox"/> </div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                           |                                                                                                                                                                                                 |
| Date: <u>20/08/20</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Sequence #: <u>112</u>                                                                                                                       | QTY Affected: <u>2</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MFG (SI042)<br><u>LS</u><br><u>SVQ</u> <u>SM 20/08/20</u> |                                                                                                                                                                                                 |
| <b>Description Work Order Deviation</b><br><br><u>The .750 hex was off by .015" center</u>                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                              | <b>Disposition</b><br><br><u>Acceptable for this value only</u><br><u>650.9610, does not effect fit form and function</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                           | Completed By<br><u>[Signature]</u><br><u>20/08/21</u><br><br>Lead hand / Supervisor<br><u>[Signature]</u><br><u>20/08/20</u><br><br>QC / QA Coordinator<br><u>[Signature]</u><br><u>20-8-21</u> |
| <b>Root Cause</b><br><br><div style="display: flex; flex-direction: column;"> <div>Operator <input type="checkbox"/></div> <div>Manufacturing Process <input type="checkbox"/></div> <div>Equip/Tooling <input checked="" type="checkbox"/></div> <div>Handling/Preservation <input type="checkbox"/></div> <div>Material <input type="checkbox"/></div> <div>Product Improvement <input type="checkbox"/></div> <div>Process Improvement <input type="checkbox"/></div> <div>Human Factors <input type="checkbox"/></div> </div> |                                                                                                                                              | <b>FAULT CATEGORY</b><br><br><div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <input type="checkbox"/> Pressure/Forced<br/> <input type="checkbox"/> Bending<br/> <input type="checkbox"/> Crushing<br/> <input type="checkbox"/> Cracks<br/> <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br/> <input type="checkbox"/> Marks/Chatter<br/> <input type="checkbox"/> Mislabeled             </div> <div style="width: 50%;"> <input type="checkbox"/> Contamination<br/> <input checked="" type="checkbox"/> Misaligned/off center<br/> <input type="checkbox"/> BOM/Route<br/> <input type="checkbox"/> Broken/Damage/Defect<br/> <input type="checkbox"/> Incomplete/Unclear Instructions<br/> <input type="checkbox"/> Drill Holes<br/> <input type="checkbox"/> Fit/Function             </div> <div style="width: 50%;"> <input type="checkbox"/> Power Loss/Surge<br/> <input type="checkbox"/> Folio/Program<br/> <input type="checkbox"/> Grain Direction<br/> <input type="checkbox"/> Weld<br/> <input type="checkbox"/> Wrong Stock Pulled<br/> <input type="checkbox"/> Out of Sequence<br/> <input type="checkbox"/> Off-set/Set-up             </div> <div style="width: 50%;"> <input type="checkbox"/> Positioned Wrong<br/> <input type="checkbox"/> Outside Tolerance<br/> <input type="checkbox"/> Drawing<br/> <input type="checkbox"/> Finish<br/> <input type="checkbox"/> Part Lost/Missing<br/> <input type="checkbox"/> Misread             </div> </div> |                                                           |                                                                                                                                                                                                 |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                           |                                                                                                                                                                                                 |

Entered: \_\_\_\_\_ Date: \_\_\_\_\_



# WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. \_\_\_\_\_

Route update only ☐

|                                                |                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Job: <u>212077</u><br>Part No. <u>650.9610</u> | <b>DISPOSITION</b><br>Rework <input checked="" type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/> | <b>DEPARTMENT/PROCESS</b><br>Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Large Fab <input type="checkbox"/><br>Cross tube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/><br>Eng. (Non-AW) <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/><br>Engineering <input type="checkbox"/><br>Water Jet <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Quality <input type="checkbox"/> |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                         |                        |                        |                                         |
|-------------------------|------------------------|------------------------|-----------------------------------------|
| Date: <u>21/08/2020</u> | Sequence #: <u>120</u> | QTY Affected: <u>6</u> | MRB (QS1042)<br>DAS 51<br>9-89 20/08/21 |
|-------------------------|------------------------|------------------------|-----------------------------------------|

| Description Work Order Deviation                                                                                     | Disposition                                                                                                                                       |                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| DIMENSION WAS $\phi 0.437 - 0.441$<br>IS $\phi 0.460 - 0.464$<br>DIMENSION WAS $0.084 - 0.089$<br>IS $0.095 - 0.100$ | THIS DEVIATION IS ACCEPTABLE<br>THESE CHANGES WERE MADE TO<br>PREVENT THE O-RING<br>FROM BUCKLING IN THE<br>GROOVE.<br>Changes updated on Rev PB2 | Completed By<br>DAS 20<br>9-89 20-08-23<br>Lead hand / Supervisor<br>DAS 9<br>9-89 20-08-24<br>QC / QA Coordinator<br>DAS 9<br>9-89 20-08-24 |

|                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                             |                                            |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
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| <b>Root Cause</b><br>Operator <input type="checkbox"/><br>Manufacturing Process <input type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Preservation <input type="checkbox"/><br>Material <input type="checkbox"/><br>Product Improvement <input checked="" type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Human Factors <input type="checkbox"/> | <b>FAULT CATEGORY</b><br><table border="0"> <tr> <td><input type="checkbox"/> Pressure/Forced</td> <td><input type="checkbox"/> Contamination</td> <td><input type="checkbox"/> Power Loss/Surge</td> <td><input type="checkbox"/> Positioned Wrong</td> </tr> <tr> <td><input type="checkbox"/> Bending</td> <td><input type="checkbox"/> Misaligned/off center</td> <td><input type="checkbox"/> Folio/Program</td> <td><input type="checkbox"/> Outside Tolerance</td> </tr> <tr> <td><input type="checkbox"/> Crushing</td> <td><input type="checkbox"/> BOM/Route</td> <td><input type="checkbox"/> Grain Direction</td> <td><input type="checkbox"/> Drawing</td> </tr> <tr> <td><input type="checkbox"/> Cracks</td> <td><input type="checkbox"/> Broken/Damage/Defect</td> <td><input type="checkbox"/> Weld</td> <td><input type="checkbox"/> Finish</td> </tr> <tr> <td><input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist</td> <td><input type="checkbox"/> Incomplete/Unclear Instructions</td> <td><input type="checkbox"/> Wrong Stock Pulled</td> <td><input type="checkbox"/> Part Lost/Missing</td> </tr> <tr> <td><input type="checkbox"/> Marks/Chatter</td> <td><input type="checkbox"/> Drill Holes</td> <td><input type="checkbox"/> Out of Sequence</td> <td><input type="checkbox"/> Misread</td> </tr> <tr> <td><input type="checkbox"/> Mislabeled</td> <td><input checked="" type="checkbox"/> Fit/Function</td> <td><input type="checkbox"/> Off-set/Set-up</td> <td></td> </tr> </table> | <input type="checkbox"/> Pressure/Forced    | <input type="checkbox"/> Contamination     | <input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Positioned Wrong | <input type="checkbox"/> Bending | <input type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Folio/Program | <input type="checkbox"/> Outside Tolerance | <input type="checkbox"/> Crushing | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Grain Direction | <input type="checkbox"/> Drawing | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damage/Defect | <input type="checkbox"/> Weld | <input type="checkbox"/> Finish | <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Marks/Chatter | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Misread | <input type="checkbox"/> Mislabeled | <input checked="" type="checkbox"/> Fit/Function | <input type="checkbox"/> Off-set/Set-up |  |
| <input type="checkbox"/> Pressure/Forced                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Contamination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Power Loss/Surge   | <input type="checkbox"/> Positioned Wrong  |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
| <input type="checkbox"/> Bending                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Misaligned/off center                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Folio/Program      | <input type="checkbox"/> Outside Tolerance |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
| <input type="checkbox"/> Crushing                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> BOM/Route                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/> Grain Direction    | <input type="checkbox"/> Drawing           |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
| <input type="checkbox"/> Cracks                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Broken/Damage/Defect                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Weld               | <input type="checkbox"/> Finish            |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
| <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Incomplete/Unclear Instructions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Wrong Stock Pulled | <input type="checkbox"/> Part Lost/Missing |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
| <input type="checkbox"/> Marks/Chatter                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Drill Holes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> Out of Sequence    | <input type="checkbox"/> Misread           |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
| <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                            | <input checked="" type="checkbox"/> Fit/Function                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Off-set/Set-up     |                                            |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                             |                                            |                                           |                                           |                                  |                                                |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                                  |                                         |  |



X

IS 0.082-0.100  
DIMENSION M42 0.084-0.086

IS 0.080-0.082  
DIMENSION M42 0.082-0.084

0.082-0.100

0.082-0.100

0.082-0.100

X

0.082-0.100

FROM BACKING IN THE  
BUT BECAUSE THE O-BING  
THESE CHANGES WERE MADE TO  
THIS DERIVATION IS POSSIBLE

Entered: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No.

Route update only

|                                                                                                                                                                                                                                                                                                                                                                            |  |                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                                                             |  |                                                                                                                                                     |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Job: <u>212077</u>                                                                                                                                                                                                                                                                                                                                                         |  | DISPOSITION                                                                                                                                                                                                                                                                                    |  | DEPARTMENT/PROCESS                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                                                             |  |                                                                                                                                                     |  |
| Part No. <u>650.9610</u>                                                                                                                                                                                                                                                                                                                                                   |  | Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input checked="" type="checkbox"/>                                                                                                                                                                             |  | Skid-tube <input type="checkbox"/><br>Machining <input checked="" type="checkbox"/><br>Large Fab <input type="checkbox"/>                                                                                                                                                                                                    |  | Cross tube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/>                                                                                                                                                                                        |  | Eng. (Non-AW) <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/>                                                                                                                        |  | Engineering <input type="checkbox"/><br>Water Jet <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Quality <input type="checkbox"/> |  |
| Date: <u>08/25/2020</u>                                                                                                                                                                                                                                                                                                                                                    |  | Sequence #:                                                                                                                                                                                                                                                                                    |  | QTY Affected: <u>6</u>                                                                                                                                                                                                                                                                                                       |  |                                                                                                                                                                                                                                                                                                        |  | MRB (QSI042)<br>DAS <u>51</u><br>9-89 <u>20/08/2</u>                                                                                                                                                                                                        |  |                                                                                                                                                     |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                           |  |                                                                                                                                                                                                                                                                                                |  | Disposition                                                                                                                                                                                                                                                                                                                  |  |                                                                                                                                                                                                                                                                                                        |  | Completed By<br>DAS <u>20</u><br>9-89 <u>20-09-2</u>                                                                                                                                                                                                        |  |                                                                                                                                                     |  |
| DIMENSION WAS $\phi 0.464$ IS $\phi 0.464$<br><u>0.460</u> <u>0.459</u>                                                                                                                                                                                                                                                                                                    |  |                                                                                                                                                                                                                                                                                                |  | THESE CHANGES ARE ACCEPTABLE<br>AFTER REWORK, THESE DIMENSIONS<br>WERE OUT OF TOLERANCE,<br>HOWEVER THIS WILL NOT HAVE<br>AN IMPACT ON THE <del>FFB</del> FIT,<br>FORM, AND <del>FUNCTION</del> FUNCTION<br>OF THE PART<br><u>acceptable one time only. PD.</u>                                                              |  |                                                                                                                                                                                                                                                                                                        |  | Lead hand / Supervisor<br>DAS <u>9</u><br>9-89 <u>20-20-9-2</u>                                                                                                                                                                                             |  |                                                                                                                                                     |  |
| <del>DIMENSION WAS <math>\phi</math></del><br>DIMENSION WAS <u>0.054</u> IS <u>0.056</u><br><u>0.050</u> <u>0.050</u>                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                |  |                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                        |  | QC / QA Coordinator<br>DAS <u>9</u><br>9-89 <u>20-9-24</u>                                                                                                                                                                                                  |  |                                                                                                                                                     |  |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                 |  | FAULT CATEGORY                                                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                                                             |  |                                                                                                                                                     |  |
| Operator <input type="checkbox"/><br>Manufacturing Process <input checked="" type="checkbox"/><br>Equip/Tooling <input type="checkbox"/><br>Handling/Presservation <input type="checkbox"/><br>Material <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Human Factors <input type="checkbox"/> |  | <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Bending<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Mislabeled |  | <input type="checkbox"/> Contamination<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Incomplete/Unclear Instructions<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Fit/Function |  | <input type="checkbox"/> Power Loss/Surge<br><input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain Direction<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Out of Sequence<br><input type="checkbox"/> Off-set/Set-up |  | <input type="checkbox"/> Positioned Wrong<br><input checked="" type="checkbox"/> Outside Tolerance<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Misread |  |                                                                                                                                                     |  |
|                                                                                                                                                                                                                                                                                                                                                                            |  | Other/Details:                                                                                                                                                                                                                                                                                 |  |                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                        |  |                                                                                                                                                                                                                                                             |  |                                                                                                                                                     |  |



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~~DIMENSION WAS 0.020~~

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DIMENSION WAS 0.020 IS 0.020

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OF THE DASH

FORWARD AND TRANSDUCER POSITION

IN CONTACT ON THE FIBER FIL

HOWEVER THIS WILL NOT HAVE

BEEN ONE OF TOLERANCE

AFTER REMOVAL THESE DIMENSIONS

THESE CHANGES ARE ACCEPTABLE

8-23  
21  
SAD

## **Ketan Tailor**

---

**From:** Tyler Cross  
**Sent:** August-19-20 12:48 PM  
**To:** Ketan Tailor  
**Subject:** RE: Deviation for Electric Valve Body

Im good with this.

---

**From:** Ketan Tailor <ktailor@dartaero.com>  
**Sent:** Wednesday, August 19, 2020 7:07 AM  
**To:** Tyler Cross <tcross@dartaero.com>  
**Subject:** Deviation for Electric Valve Body

Hey Tyler,

As per our discussion yesterday regarding the depth of the 6-32 tapped hole, I wanted to confirm the changes:

The depth of the 6-32 tapped hole was 0.214 is 0.245.

Please let me know if this change is acceptable.

Thanks,  
Ketan



Entered: \_\_\_\_\_ Date: \_\_\_\_\_



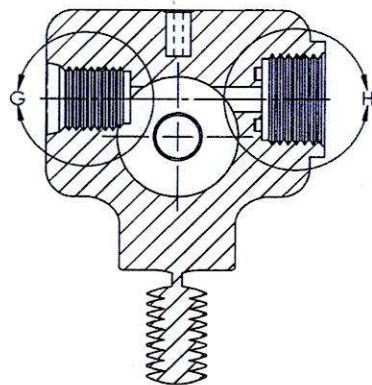
## WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No.

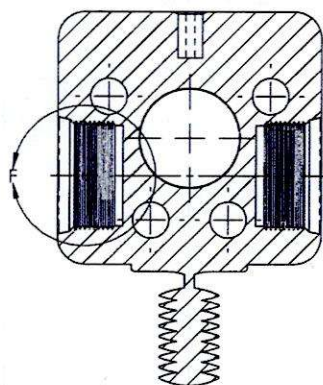
Route update only

|                                                                                                                                                                                                                                                                                                                                                                                                 |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------|-----------------------------------------------------------|----------------------------------------|--------------------------------------------|-----------------------------------|------------------------------------|------------------------------------------|----------------------------------|---------------------------------|-----------------------------------------------|-------------------------------|---------------------------------|-------------------------------------------------------|----------------------------------------------------------|---------------------------------------------|--------------------------------------------|----------------------------------------|--------------------------------------|------------------------------------------|----------------------------------|-------------------------------------|---------------------------------------|----------------------------------------------------|--|
| Job: <u>212077</u>                                                                                                                                                                                                                                                                                                                                                                              |                                                           | DISPOSITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                            | DEPARTMENT/PROCESS                                                                                             |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| Part No. <u>6509610</u>                                                                                                                                                                                                                                                                                                                                                                         |                                                           | Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                            | Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Large Fab <input type="checkbox"/> | Cross tube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/> | Eng. (Non-AW) <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/> | Engineering <input checked="" type="checkbox"/><br>Water Jet <input type="checkbox"/><br>Supplier <input type="checkbox"/><br>Quality <input type="checkbox"/> |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| Date: SEP 11 2020                                                                                                                                                                                                                                                                                                                                                                               |                                                           | Sequence #: <u>QCB</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                            | QTY Affected: <u>6 PLS</u>                                                                                     |                                                                                                                 | MRB (QSI042)<br>DAS<br>51<br>9-82069/11                                                                                              |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| Description Work Order Deviation                                                                                                                                                                                                                                                                                                                                                                |                                                           | Disposition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                            |                                                                                                                |                                                                                                                 | DAE Completed By<br>82<br>9-89 SEP 11 2020                                                                                           |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| during inspection the 0.095 Dia<br>was off, the gauge pin was indicating<br>certain areas were off<br>also:<br>Test Kit done with O-Ring 601-2939                                                                                                                                                                                                                                               |                                                           | Acceptable for testing <u>only</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                            |                                                                                                                |                                                                                                                 | Lead hand / Supervisor<br>PD<br>SEP 11 2020                                                                                          |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| Root Cause                                                                                                                                                                                                                                                                                                                                                                                      |                                                           | QC / QA Coordinator<br>PD.<br>SEP 11 2020                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                            |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| Operator <input checked="" type="checkbox"/><br>Manufacturing Process <input checked="" type="checkbox"/><br>Equip/Tooling <input checked="" type="checkbox"/><br>Handling/Preservation <input type="checkbox"/><br>Material <input type="checkbox"/><br>Product Improvement <input type="checkbox"/><br>Process Improvement <input type="checkbox"/><br>Human Factors <input type="checkbox"/> |                                                           | FAULT CATEGORY<br><table><tr><td><input type="checkbox"/> Pressure/Forced</td><td><input type="checkbox"/> Contamination</td><td><input type="checkbox"/> Power Loss/Surge</td><td><input type="checkbox"/> Positioned Wrong</td></tr><tr><td><input type="checkbox"/> Bending</td><td><input checked="" type="checkbox"/> Misaligned/off center</td><td><input type="checkbox"/> Folio/Program</td><td><input type="checkbox"/> Outside Tolerance</td></tr><tr><td><input type="checkbox"/> Crushing</td><td><input type="checkbox"/> BOM/Route</td><td><input type="checkbox"/> Grain Direction</td><td><input type="checkbox"/> Drawing</td></tr><tr><td><input type="checkbox"/> Cracks</td><td><input type="checkbox"/> Broken/Damage/Defect</td><td><input type="checkbox"/> Weld</td><td><input type="checkbox"/> Finish</td></tr><tr><td><input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist</td><td><input type="checkbox"/> Incomplete/Unclear Instructions</td><td><input type="checkbox"/> Wrong Stock Pulled</td><td><input type="checkbox"/> Part Lost/Missing</td></tr><tr><td><input type="checkbox"/> Marks/Chatter</td><td><input type="checkbox"/> Drill Holes</td><td><input type="checkbox"/> Out of Sequence</td><td><input type="checkbox"/> Misread</td></tr><tr><td><input type="checkbox"/> Mislabeled</td><td><input type="checkbox"/> Fit/Function</td><td><input checked="" type="checkbox"/> Off-set/Set-up</td><td></td></tr></table> |                                            |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                | <input type="checkbox"/> Pressure/Forced | <input type="checkbox"/> Contamination | <input type="checkbox"/> Power Loss/Surge | <input type="checkbox"/> Positioned Wrong | <input type="checkbox"/> Bending | <input checked="" type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Folio/Program | <input type="checkbox"/> Outside Tolerance | <input type="checkbox"/> Crushing | <input type="checkbox"/> BOM/Route | <input type="checkbox"/> Grain Direction | <input type="checkbox"/> Drawing | <input type="checkbox"/> Cracks | <input type="checkbox"/> Broken/Damage/Defect | <input type="checkbox"/> Weld | <input type="checkbox"/> Finish | <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist | <input type="checkbox"/> Incomplete/Unclear Instructions | <input type="checkbox"/> Wrong Stock Pulled | <input type="checkbox"/> Part Lost/Missing | <input type="checkbox"/> Marks/Chatter | <input type="checkbox"/> Drill Holes | <input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Misread | <input type="checkbox"/> Mislabeled | <input type="checkbox"/> Fit/Function | <input checked="" type="checkbox"/> Off-set/Set-up |  |
| <input type="checkbox"/> Pressure/Forced                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> Contamination                    | <input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <input type="checkbox"/> Positioned Wrong  |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| <input type="checkbox"/> Bending                                                                                                                                                                                                                                                                                                                                                                | <input checked="" type="checkbox"/> Misaligned/off center | <input type="checkbox"/> Folio/Program                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Outside Tolerance |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| <input type="checkbox"/> Crushing                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> BOM/Route                        | <input type="checkbox"/> Grain Direction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Drawing           |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| <input type="checkbox"/> Cracks                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Broken/Damage/Defect             | <input type="checkbox"/> Weld                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Finish            |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| <input type="checkbox"/> Crimp/Kink/Ripple/Wave/Twist                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Incomplete/Unclear Instructions  | <input type="checkbox"/> Wrong Stock Pulled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Part Lost/Missing |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| <input type="checkbox"/> Marks/Chatter                                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Drill Holes                      | <input type="checkbox"/> Out of Sequence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/> Misread           |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| <input type="checkbox"/> Mislabeled                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/> Fit/Function                     | <input checked="" type="checkbox"/> Off-set/Set-up                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                            |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |
| Other/Details:                                                                                                                                                                                                                                                                                                                                                                                  |                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                            |                                                                                                                |                                                                                                                 |                                                                                                                                      |                                                                                                                                                                |                                          |                                        |                                           |                                           |                                  |                                                           |                                        |                                            |                                   |                                    |                                          |                                  |                                 |                                               |                               |                                 |                                                       |                                                          |                                             |                                            |                                        |                                      |                                          |                                  |                                     |                                       |                                                    |  |

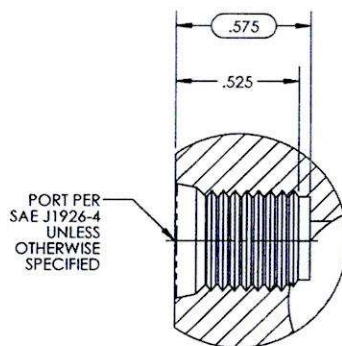
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF DART AEROSPACE DBA APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE DBA APICAL INDUSTRIES IS PROHIBITED.



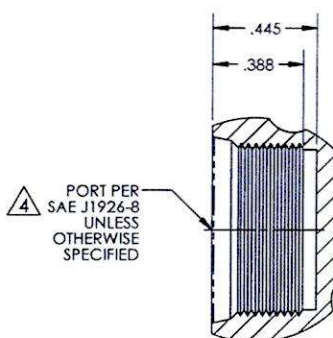
SECTION E-E  $\frac{1}{2} D2$



SECTION D-D  $\frac{1}{2} D1$



DETAIL G



DETAIL F  
2 PL

$\phi .460 + .004$   
 $- .000$

$\phi .460 + .004$   
 $- .000$

DISCUSS  
WITH CP

$0.095 + .005$   
 $- .000$

$0.095 + .005 / + .000 \checkmark All$

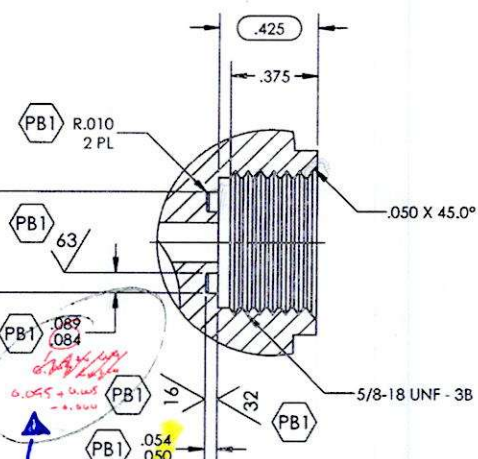
goes from 0.0955 to 0.0957

$\phi .460 + .004 / - .000$

goes from 0.4593 to 0.4596

$0.050 \text{ to } 0.054$

1 part .002 over  
2 parts .0004 over  
+ .0018 over



DETAIL H

|                                               |                 |                                                                       |
|-----------------------------------------------|-----------------|-----------------------------------------------------------------------|
| <b>DART</b>                                   |                 | 3030 ENTERPRISE CT.,<br>SUITE A<br>VISTA, CA. 92081<br>(760)-724-5300 |
| <b>AEROSPACE</b>                              |                 |                                                                       |
| APICAL INDUSTRIES, INC.<br>DBA DART AEROSPACE |                 |                                                                       |
| <b>ELECTRIC VALVE BODY</b>                    |                 |                                                                       |
| REV. B                                        | CAGE CODE 07M16 | DWG. NO. 650.9600                                                     |
| SCALE NONE                                    |                 | SHEET 3 OF 3                                                          |



**DART AEROSPACE LTD**

**Description:** Electric Valve Body

|              |          |
|--------------|----------|
| Part Number: | 650.9610 |
|--------------|----------|

Inspection Dwg: 650.9600 Rev: ~~2~~ PB2

Page 1 of 1

[illegible]

DAS  
82  
9-89

|              |      |
|--------------|------|
| Measured by: | 9-89 |
|--------------|------|

**Checked by:**

**QC Inspector:**

|       |          |
|-------|----------|
| Date: | 20-08-23 |
|-------|----------|

**Date:**

Date:

SEP 11 2020

**Engineering Approval:**  
(If necessary)

Date:

| Rev | Date     | Change    |
|-----|----------|-----------|
| B   | 14.07.31 | New Issue |

|                   |                 |
|-------------------|-----------------|
| <b>Revised by</b> | <b>Approved</b> |
| KJ                |                 |



RT AEROSPACE LTD

Work Order: 212.077

Description: Electric Valve Body

Part Number: 650.9610

Inspection Dwg: 650.9600

Rev: PB2 - PB+

Page 1 of 1

### INSPECTION SHEET

| Drawing Dimension | Tolerance   | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|-------------------|-------------|------------------|--------|--------|----------------------|----------|
| ① R.015/.031      |             | .020             | ✓      |        | opt comp             |          |
| ② 7/8-14 UNF      | 3A          |                  |        |        |                      |          |
| MAI Ø.8699"       | ±.0052      | .8702            | ✓      |        | MIC. LPI             |          |
| Wire Ø.040"       |             |                  |        |        |                      |          |
| DIW.8847"         | ±.002       | .8849            | ✓      |        | ↓                    |          |
| ③ .060 x 45°      | ±.005 x .5° | .062 x 45°       | ✓      |        | Vern LPI             |          |
| ④ R3              |             | 15.1             | ✓      |        |                      |          |
| ⑤ .800            | ±.005       | .800             |        |        | Vern LPI             |          |
| ⑥ .005/.020       |             | .015             |        |        | opt comp             |          |
| ⑦ .107            | ±.015/.000  | .118             |        |        | ↓                    |          |
| ⑧ Ø.773           | ±.002/±.003 | .773             |        |        | Vern LPI             |          |
| ⑨ .025 x 45°      | ±.005 x .5° | .025 x 45°       | ✓      |        | ↓                    |          |
| ⑩ R3              |             |                  |        |        | Can't measured       |          |
| ⑪ Ø.625           | ±.005       | .625             |        |        | Vern LPI             |          |
| ⑫ Ø.500           | ±.005       | .500             |        |        |                      |          |
| ⑬ .400"           | ±.005       | .400             |        |        |                      |          |
| ⑭ Ø1.105          | ±.005       | 1.105            | ✓      |        | ↓                    |          |

DAS

32

3.89

Measured by: J

Checked by: J

QC Inspector:

Date: 24/08/08

Date: 20/08/20

Date: SEP 11 2020

Engineering Approval:  
(if necessary)

Date:

| Rev | Date     | Change    | Revised by | Approved |
|-----|----------|-----------|------------|----------|
| A   | 14.07.31 | New Issue | KJ         |          |



|                                                         |  |                              |
|---------------------------------------------------------|--|------------------------------|
| <b>DART AEROSPACE LTD</b>                               |  | <b>Work Order:</b> 212.077   |
| <b>Description:</b> Electric valve Body                 |  | <b>Part Number:</b> 650-9610 |
| <b>Inspection Dwg:</b> 650.9610 Rev: <del>PB1</del> PB2 |  | Page 1 of 1                  |

### INSPECTION SHEET

|    | Drawing Dimension | Tolerance      | Actual Dimension | Accept | Reject | Method of Inspection     | Comments |
|----|-------------------|----------------|------------------|--------|--------|--------------------------|----------|
| ①  | 2.000             | +/- .005       | 2.001            | ✓      |        | SLIO                     | VERN     |
| ②  | 1.740             | +/- .005       | 1.740            | ✓      |        |                          |          |
| ③  | 1.260             | +/- .005       | 1.258            | ✓      |        |                          |          |
| ④  | .740              | +/- .005       | .741             | ✓      |        |                          |          |
| ⑤  | .490              | +/- .005       | .489             | ✓      |        |                          |          |
| ⑥  | .615              | +/- .005       | .6155            | ✓      |        |                          |          |
| ⑦  | 1.135             | +/- .005       | 1.137            | ✓      |        |                          |          |
| ⑧  | .030 X .45°       | +/- .005 X .5° | .028 X .45°      | ✓      |        |                          |          |
| ⑨  | R.020             | +/- .005       | .02              | ✓      |        | Rad gauge                |          |
| ⑩  | R.188             | +/- .005       | .188             | ✓      |        | "                        |          |
| ⑪  | .030 X .45°       | +/- .005 X .5° | .031 X .45°      | ✓      |        | SLIO                     | VERN     |
| ⑫  | .030 X .45°       | +/- .005 X .5° | .028 X .45°      | ✓      |        | "                        |          |
| ⑬  | φ.172             | +0.005/-0.001  | .174             | ✓      |        | "                        |          |
| ⑭  | 5/8-18 UNF-3B     | —              | 5/8-18 3B        | ✓      |        | Thread gauge             |          |
| ⑮  | 3/4-28 UNF-2B     | —              | 3/4-28 2B        | ✓      |        | "                        |          |
| 16 | 1.900             | +/- .005       | 1.899            | ✓      |        | SLIO                     | VERN     |
| 17 | .100              | +/- .005       | .100             | ✓      |        | "                        |          |
| 18 | φ.800             | +/- .005       | .800             | ✓      |        | "                        |          |
| 19 | R.188             | +/- .005       | .188             | ✓      |        | Rad gauge                |          |
| 20 | R.015-.031        | —              | .020             | ✓      |        | opt. comp.               |          |
| 21 | .060 X .45°       | +/- .005 X .5° | .062 X .45°      | ✓      |        | SLIO                     | VERN     |
| 22 | √63               | —              | 15.1             | ✓      |        | Surface Roughness Tester | (SRT)    |
| 23 | .800              | +/- .005       | .800             | ✓      |        | SLIO                     | VERN     |
| 24 | 2.600             | +/- .005       | 2.602            | ✓      |        |                          |          |
| 25 | 1.800             | +/- .005       | 1.801            | ✓      |        |                          |          |
| 26 | 1.750             | +/- .005       | 1.752            | ✓      |        |                          |          |
| 27 | .875              | +/- .005       | .8755            | ✓      |        |                          |          |
| 28 | 1/2-20 UNF-3B     | —              | 1/2-20 3B        | ✓      |        | Thread gauge             |          |
| 29 | 7/8-14 UNF-3A     | —              | 7/8-14 3A        | ✓      |        | "                        |          |
| 30 | 1.260             | +/- .005       | 1.259            | ✓      |        | SLIO                     | VERN     |
| 31 | .490              | +/- .005       | .489             | ✓      |        | "                        |          |
| 32 | 130°              | +/- .5°        | 129.5°           | ✓      |        | Protractor               |          |

|                            |                              |                           |
|----------------------------|------------------------------|---------------------------|
| <b>Measured by:</b> DAS 20 | <b>Checked by:</b> <i>Am</i> | <b>QC Inspector:</b> 9-89 |
| <b>Date:</b> 9-89 20-08-11 | <b>Date:</b> 20/08/20        | <b>Date:</b> SEP 11 2020  |

|                                                |              |
|------------------------------------------------|--------------|
| <b>Engineering Approval:</b><br>(If necessary) | <b>Date:</b> |
|------------------------------------------------|--------------|

| Rev | Date     | Change    | Revised by | Approved |
|-----|----------|-----------|------------|----------|
| B   | 14.07.31 | New Issue | KJ         |          |



|                           |                 |                              |
|---------------------------|-----------------|------------------------------|
| <b>DART AEROSPACE LTD</b> |                 | <b>Work Order:</b> 212 077   |
| <b>Description:</b>       |                 | <b>Part Number:</b> 650-9610 |
| <b>Inspection Dwg:</b>    | <b>Rev:</b> PB2 | Page 1 of 1                  |

### INSPECTION SHEET

|    | Drawing Dimension | Tolerance       | Actual Dimension | Accept | Reject | Method of Inspection | Comments |
|----|-------------------|-----------------|------------------|--------|--------|----------------------|----------|
| 33 | R.005-.020        | —               | .015             | ✓      |        | opt. comp.           |          |
| 34 | .107              | +/- .015/- .000 | .118             | ✓      |        | "                    |          |
| 35 | 1.135             | +/- .005        | 1.137            | ✓      |        |                      |          |
| 36 | .615              | +/- .005        | .616             | ✓      |        |                      |          |
| 37 | 7/16-20UNF-3B     | —               | 7/16-20 3B       | ✓      |        | Thread gauge         |          |
| 38 | 1.350             | +/- .005        | 1.352            | ✓      |        | SLIO                 | vein     |
| 39 | .650              | +/- .005        | .650             | ✓      |        | "                    |          |
| 40 | .400              | +/- .005        | .402             | ✓      |        |                      |          |
| 41 | .250              | +/- .005        | .250             | ✓      |        |                      |          |
| 42 | Ø .830            | +/- .005        | .825             | ✓      |        |                      |          |
| 43 | Ø .773            | + .002/- .003   | .771             | ✓      |        |                      |          |
| 44 | .025 X 45°        | +/- .005        | .024 X 45°       | ✓      |        |                      |          |
| 45 | Ø .500            | + .006/- .001   | .499             | ✓      |        |                      |          |
| 46 | Ø .625            | + .008/- .001   | .625             | ✓      |        |                      |          |
| 47 | ✓ 63              | —               |                  |        |        |                      |          |
| 48 | .400              | +/- .005        | .405             | ✓      |        | Can't measure        |          |
| 49 | .417              | +/- .005        | .418             | ✓      |        | SLIO                 | vein     |
| 50 | .450              | +/- .005        | .449             | ✓      |        |                      |          |
| 51 | 1.414             | +/- .005        | 1.414            | ✓      |        |                      |          |
| 52 | 125°              | +/- .5°         | 125°             | ✓      |        | Protractor           |          |
| 53 | 90°               | +/- .5°         | 90°              | ✓      |        | "                    |          |
| 54 | Ø .250            | + .005/- .001   | .250             | ✓      |        | SLIO                 | vein     |
| 55 | .650              | +/- .005        | .655             | ✓      |        |                      |          |
| 56 | R 1.000           | +/- .002        | 1.000            | ✓      |        |                      |          |
| 57 | Ø .250            | + .005/- .001   | .250             | ✓      |        |                      |          |
| 58 | .500              | +/- .005        | .505             | ✓      |        |                      |          |
| 59 | Ø .107            | + .004/- .001   | .109             | ✓      |        |                      |          |
| 60 | .285              | +/- .005        | .287             | ✓      |        |                      |          |
| 61 | 6-32UNC-3B        | —               | 6-32 3B          | ✓      |        | Thread gauge         |          |
| 62 | .214              | +/- .005        | .212             | ✓      |        | SLIO                 | vein     |
| 63 | Ø .55             | + .005/- .001   | .160             | ✓      |        |                      |          |
| 64 | R .625            | +/- .002        | .626             | ✓      |        |                      |          |

See NCR

DAS  
82  
9-89

|                         |                                |                          |
|-------------------------|--------------------------------|--------------------------|
| <b>Measured by:</b> DAS | <b>Checked by:</b> [Signature] | <b>QC Inspector:</b>     |
| <b>Date:</b> 20-08-11   | <b>Date:</b> 20/08/20          | <b>Date:</b> SEP 11 2020 |

|                                                |              |
|------------------------------------------------|--------------|
| <b>Engineering Approval:</b><br>(If necessary) | <b>Date:</b> |
|------------------------------------------------|--------------|

| Rev | Date     | Change    | Revised by | Approved |
|-----|----------|-----------|------------|----------|
| B   | 14.07.31 | New Issue | KJ         |          |



|                           |                 |                              |
|---------------------------|-----------------|------------------------------|
| <b>DART AEROSPACE LTD</b> |                 | <b>Work Order:</b> 212077    |
| <b>Description:</b>       |                 | <b>Part Number:</b> 650-9610 |
| <b>Inspection Dwg:</b>    | <b>Rev:</b> PB2 | <b>Page 1 of 1</b>           |

### INSPECTION SHEET

|    | Drawing Dimension | Tolerance     | Actual Dimension | Accept | Reject | Method of Inspection | Comments                |
|----|-------------------|---------------|------------------|--------|--------|----------------------|-------------------------|
| 65 | 3/14-11UNF-3B     | —             | 3/14-3B          | ✓      |        | Thread               | gauge                   |
| 66 | 1.800             | +/- .005      | 1.800            | ✓      |        | SL10                 | VERN                    |
| 67 | .900              | +/- .005      | .892             | ✓      |        | "                    |                         |
| 68 | R.062             | +/- .005      | .062             | ✓      |        | Rad gauge            |                         |
| 69 | .750              | +/- .005      | .749             | ✓      |        | SL10                 | VERN                    |
| 70 | .320              | +/- .005      | .323             | ✓      |        |                      |                         |
| 71 | Ø.830             | +/- .005      | .830             | ✓      |        |                      |                         |
| 72 | 1.740             | +/- .005      | 1.741            | ✓      |        |                      |                         |
| 73 | .875              | +/- .005      | .875             | ✓      |        |                      |                         |
| 74 | Ø.300             | + .006/- .001 | .303             | ✓      |        |                      |                         |
| 75 | .015 X 45°        | +/- .005      | .010 X 45°       | ✓      |        |                      |                         |
| 76 | √32               | —             |                  |        |        | S.R.T                | Can't measure           |
| 77 | .016 X 45°        | +/- .005      | .014 X 45°       | ✓      |        | SL10                 | VERN                    |
| 78 | 1.093             | +/- .005      | 1.093            | ✓      |        | SL10                 | VERN                    |
| 79 | .875              | +/- .005      | .878             | ✓      |        | 31006                | H-G.                    |
| 80 | .900              | +/- .005      | .900             | ✓      |        | "                    |                         |
| 81 | R.188             | +/- .005      | .188             | ✓      |        | Rad gauge            |                         |
| 82 | Ø 1.105           | +/- .005      | 1.102            | ✓      |        | SL10                 | VERN                    |
| 83 | .575              | +/- .005      | .574             | ✓      |        |                      |                         |
| 84 | .525              | +/- .005      | .521             | ✓      |        |                      |                         |
| 85 | .445              | +/- .005      | .445             | ✓      |        |                      |                         |
| 86 | .388              | +/- .005      | .395             | ✓      |        |                      |                         |
| 87 | .425              | +/- .005      | .424             | ✓      |        |                      |                         |
| 88 | .375              | +/- .005      | .372             | ✓      |        |                      |                         |
| 89 | R.010             | +/- .005      | .005             | ✓      |        |                      |                         |
| 90 | .437-.441         | —             | .441             | ✓      |        |                      |                         |
| 91 | √63               | —             |                  |        |        | S.R.T                | Can't measure too small |
| 92 | .084-.089         | —             | .088             | ✓      |        | gauge                | Fin                     |
| 93 | √63               | —             |                  |        |        | SRT                  | Can't measure too small |
| 94 | .050-.054         | —             | .054             | ✓      |        | SL10                 | VERN                    |
| 95 | √10               | —             |                  |        |        | SRT                  | Can't measure too small |
| 96 | √32               | —             |                  |        |        | "                    | Can't measure           |

|                                |                                |                          |
|--------------------------------|--------------------------------|--------------------------|
| <b>Measured by:</b> 20<br>9-89 | <b>Checked by:</b> [Signature] | <b>QC Inspector:</b>     |
| <b>Date:</b> 20-08-11          | <b>Date:</b> 20/08/20          | <b>Date:</b> SEP 11 2020 |

|                                                |              |
|------------------------------------------------|--------------|
| <b>Engineering Approval:</b><br>(If necessary) | <b>Date:</b> |
|------------------------------------------------|--------------|

| Rev | Date     | Change    | Revised by | Approved |
|-----|----------|-----------|------------|----------|
| B   | 14.07.31 | New Issue | KJ         |          |











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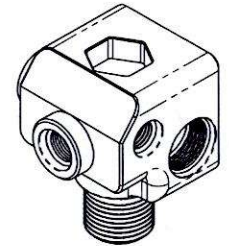
## PROTOTYPE REVISIONS

| ZONE                                                                | REV | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | DATE       | APPROVED |
|---------------------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|
| ALL<br>B1-1<br>C3-1<br>C5-1<br>C7-1<br>C8-1<br>D3-1<br>A1-2<br>B1-2 | PB1 | REMOVED $\pm .005$ TOLERANCE<br>REMOVED ELECTROPOLISH FINISH<br>ADDED R.015-.031 DIMENSION<br>ADDED SURFACE ROUGHNESS VALUE<br>ADDED R.005-.020 DIMENSION<br>DIMENSION WAS .114 IS .107 $\pm$ .015/-000<br>THREAD CLASS WAS 2A IS 3A<br>ADDED .250 2 PL DIMENSION<br>ADDED $\phi$ .830 DIMENSION<br>DIMENSION WAS $\phi$ .773 $\pm$ .005 IS $\phi$ .773 $\pm$ .002/-003<br>ADDED SURFACE ROUGHNESS VALUE<br>DIMENSION WAS $\phi$ .300 $\pm$ .005 IS $\phi$ .300 $\pm$ .006/-001<br>ADDED ALL AROUND TO DIMENSION<br>ADDED R.010 2 PL DIMENSION<br>DIMENSION WAS $\phi$ .450 $\pm$ .002 IS $\phi$ .437-.441<br>ADDED SURFACE ROUGHNESS VALUE<br>ADDED .084-.089 DIMENSION<br>DIMENSION WAS .050 $\pm$ .002 IS .050-.054<br>ADDED SURFACE ROUGHNESS VALUES<br>ADDED SURFACE ROUGHNESS VALUE | 06/01/2020 | T. CROSS |
| C2-2<br>D1-2<br>D5-2<br>A6-3<br>B5-3                                |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |
| B6-3                                                                |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |
| B7-3                                                                |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |          |

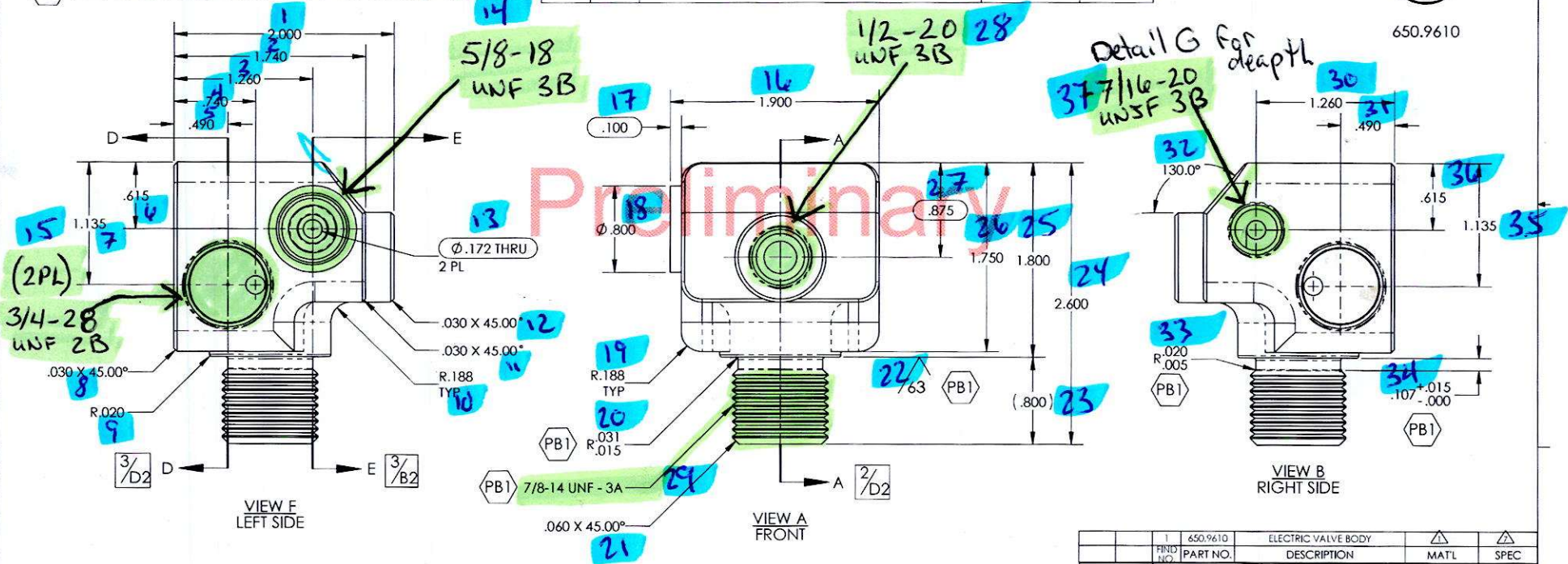
## NOTES:

- 1 MATERIAL: 303 SS IAW AMS-5640
- 2 DEBURR AND BREAK ALL SHARP EDGES
- 3 IDENTIFY IAW MPP-120
- 4 USE THREAD SIZE 3/4-28 UNF-2B
- 5 FINISH  $\sqrt{25}$  MAX UNLESS OTHERWISE SPECIFIED
- 6 ALL THREAD DEPTHS ARE MINIMUM
- 7 FINISH: PASSIVATE IAW MPP-172 SECTION 6.

| REV | DESCRIPTION            | DATE     | APPROVED |
|-----|------------------------|----------|----------|
| N/C | INITIAL RELEASE        | 04-02-15 | P. BRAVO |
| A   | INCORPORATED ECH 05015 | 07-15-15 | P. BRAVO |
| B   | INCORPORATED ECH 05084 | 08-12-15 | P. BRAVO |



650.9610



|               |    |          |                                                                                                                                                             |                   |          |
|---------------|----|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|
| QTY           | 1  | 650.9610 | ELECTRIC VALVE BODY                                                                                                                                         |                   |          |
| REV           | NO | PART NO. | DESCRIPTION                                                                                                                                                 | MATL              | SPEC     |
| NEXT ASSY (S) |    |          | PARTS LIST                                                                                                                                                  |                   |          |
| 650.5300      |    |          | ORIGINAL DATE 04-02-15<br>DRAWN BY P. BRAVO<br>CHECKED P. BRAVO<br>DRAWING APPROVAL P. BRAVO<br>DATE 08-12-15<br>CONTRACT NO.                               |                   |          |
|               |    |          | UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS $\pm$ .010<br>3 PLACE DECIMALS $\pm$ .005<br>ANGLES $\pm$ .5° |                   |          |
|               |    |          | SHEET 07M26                                                                                                                                                 | DWG. NO. 650.9600 | REV. PB1 |
|               |    |          | SCALE NONE                                                                                                                                                  | SHEET 1 OF 3      |          |

**DART AEROSPACE**  
3030 ENTERPRISE CT., SUITE A  
VISTA, CA. 92081  
(760)-724-5300

**ELECTRIC VALVE BODY**



ORIGINAL DATE  
(NACDA-19) 04-02-15

DRAWN BY  
N. CAP

CHECKED BY  
P. BRAVO

DRAWING APPROVAL  
P. BRAVO

DATE  
04-15-15

CONTRACT NO.

**DART**  
AEROSPACE  
AFIL INDUSTRIES INC.  
880 DART AEROSPACE

3030 ENTERPRISE CT.  
SUITE A  
VISTA, CA 92081  
(760)-724-5300

**ELECTRIC VALVE BODY**

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
TOLERANCES ARE:  
FRACTIONS ± .010  
DECIMALS ± .005  
ANGLES ± .5°

SHEET  
B

CAGE CODE  
07M26

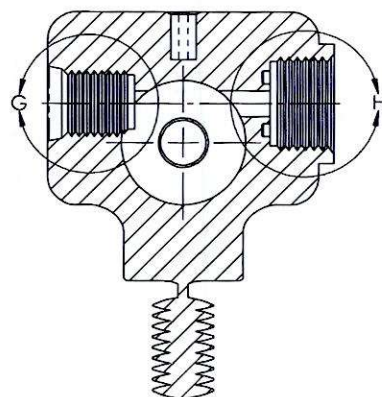
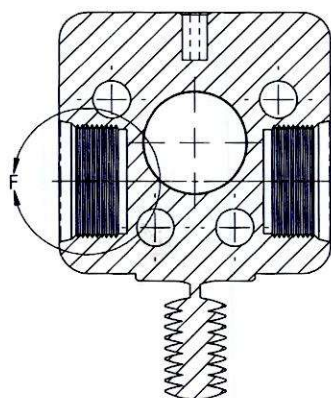
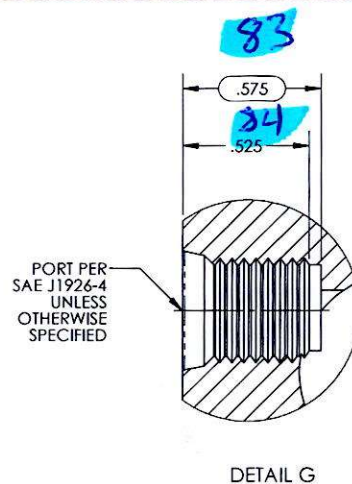
DWG. NO.  
650,690

SCALE  
NONE

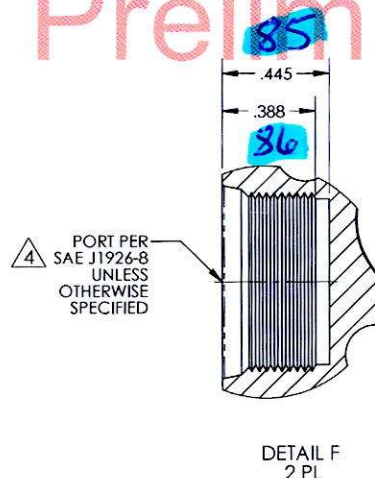
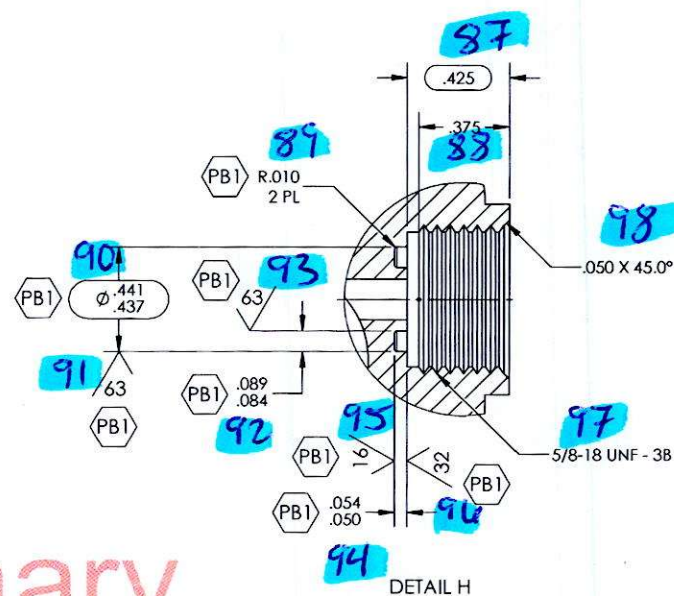
SHEET  
2 OF 3

REV  
PB

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SECTION E-E  $\frac{1}{D2}$ SECTION D-D  $\frac{1}{D1}$ 

DETAIL G

DETAIL F  
2 PL

DETAIL H

Preliminary

|                                                                                                                                                 |                                                                                 |                                                           |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------|-------------|
| ORIGINAL DATE<br>(MM-DD-YY) 04-02-15                                                                                                            | <b>DART</b> 3030 ENTERPRISE CT.<br>SUITE A<br>VISTA, CA 92081<br>(760)-724-5300 |                                                           |             |
| DRAWN BY<br>N. CAP                                                                                                                              | CHECKED<br>P. BRAVO                                                             | AEROSPACE<br>AERO INDUSTRIES, INC.<br>3030 DART AEROSPACE |             |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                    | ELECTRIC VALVE BODY                                                             |                                                           |             |
| MODS<br>C. CONTRACT NO.                                                                                                                         |                                                                                 |                                                           |             |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ± .010<br>3 PLACE DECIMALS ± .005<br>ANGLES ± .1° |                                                                                 |                                                           |             |
| REV<br>B                                                                                                                                        | CAGE CODE<br>07M126                                                             | DWG. NO.<br>650.9600                                      | REV.<br>PB1 |
| SCALE NONE                                                                                                                                      |                                                                                 | SHEET 3 OF 3                                              |             |





Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## POHB046954



**Supplier:** GRO002-VC  
Group Altech  
2455 Halpern  
St Laurent  
QC  
H4S 1N9 Canada  
Phone: 514-335-3666  
Fax: 514-335-3868

**Attention:** Grenon, Sylvie

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**PO No:** POHB046954

**PO Date:** 8/25/20

**Due Date:** 9/2/20

**Purchase Order**

**Revision:**

**Revision Date:**

**Issued By:** Guerin, Kimberley  
Phone: 613-632-5200 Ext: 298  
kguerin@dartaero.com

**Via:** Ground

**Pymt Terms:** Net 60

**Freight Terms:**

**Special Comments:**

| Items     |        |          |                  |                                                                                                                                                               |                |         |          |                |                   |         |                  |                |
|-----------|--------|----------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|----------|----------------|-------------------|---------|------------------|----------------|
| Line Item | Job    | Part     | Drawing          | Description                                                                                                                                                   | Status         | Account | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (CAD) | Extended Price |
| 1         | 212077 | 650.9610 | 650.9600 REV-PB2 | Electric Valve Body<br>-Issue P/O; _____<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>-Material type; 303 stainless steel<br>-Certificate of Conformity is required  | Firmed -<br>x6 |         | 9/2/20   | 6 pcs          | 0 pcs             | 6 pcs   | \$0.35/pcs       | \$2.10         |
|           |        |          |                  |                                                                                                                                                               |                |         |          |                |                   |         |                  |                |
| 2         | 210876 | 651.0101 | 651.0100 REV.PE2 | Angled Gauge Adapter<br>-Issue P/O; _____<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>-Material type; 316 stainless steel<br>-Certificate of Conformity is required | Firmed -<br>x3 |         | 9/2/20   | 3 pcs          | 0 pcs             | 3 pcs   | \$0.35/pcs       | \$1.05         |
| 3         | 210662 | 650.7712 | 650.7700 REV.PF1 | Mechanical Cap<br>-Issue P/O; _____<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>-Material type; 303 stainless steel<br>-Certificate of Conformity is required       | Firmed -<br>x3 |         | 9/2/20   | 3 pcs          | 0 pcs             | 3 pcs   | \$0.35/pcs       | \$1.05         |
| 4         | 211175 | 650.7810 | 650.7800 REV.PA1 | Pull Rod<br>-Issue P/O; _____<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>-Material type; 303 stainless steel<br>-Certificate of Conformity is required             | Firmed -<br>x3 |         | 9/2/20   | 3 pcs          | 0 pcs             | 3 pcs   | \$0.35/pcs       | \$1.05         |



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## POHB046954



### Items

| Line Item    | Job    | Part     | Drawing          | Description                                                                                                                                                          | Status        | Account | Due Date | Order Quantity | Received Quantity | Balance | Unit Price (CAD) | Extended Price |
|--------------|--------|----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------|----------|----------------|-------------------|---------|------------------|----------------|
| 5            | 212002 | 654.6411 | 654.6400 REV-PR2 | Plug Fitting<br>-Issue P/O; _____<br>PASSIVATE IAW QQ-P-35C, TYPE II<br><br>-Material type; 303 stainless steel<br><br>-Certificate of Conformity is required        | Firmed<br>XS  | -       | 9/2/20   | 5 pcs          | 0 pcs             | 5 pcs   | \$0.35/pcs       | \$1.75         |
|              |        |          |                  |                                                                                                                                                                      |               |         |          |                |                   |         | AUG 31 2020      |                |
| 6            | 212001 | 654.6412 | 654.6400 REV-PR2 | Fill Piston Fitting<br>-Issue P/O; _____<br>PASSIVATE IAW QQ-P-35C, TYPE II<br><br>-Material type; 303 stainless steel<br><br>-Certificate of Conformity is required | Firmed<br>XS  | -       | 9/2/20   | 5 pcs          | 0 pcs             | 5 pcs   | \$0.35/pcs       | \$1.75         |
|              |        |          |                  |                                                                                                                                                                      |               |         |          |                |                   |         | AUG 31 2020      |                |
| 7            | 211954 | 647.2511 | 647.2500 Rev A   | Nut<br>: Various STC's<br>Issue<br>P/O: _____<br>Pasivate as per MIL-S-5002 TYPE 6<br>Certificate of conformaty is required                                          | Firmed<br>X36 | -       | 9/2/20   | 36 pcs         | 0 pcs             | 36 pcs  | \$2.45/pcs       | \$88.20        |
|              |        |          |                  |                                                                                                                                                                      |               |         |          |                |                   |         | AUG 31 2020      |                |
| 8            | 211953 | 647.2510 | 647.2500 Rev A   | Sleeve<br>: Various STC's<br>Issue<br>P/O: _____<br>Pasivate as per MIL-S-5002 TYPE 6<br>Certificate of conformaty is required                                       | Firmed<br>X36 | -       | 9/2/20   | 36 pcs         | 0 pcs             | 36 pcs  | \$0.88/pcs       | \$31.68        |
|              |        |          |                  |                                                                                                                                                                      |               |         |          |                |                   |         | AUG 31 2020      |                |
| Grand Total: |        |          |                  |                                                                                                                                                                      |               |         |          |                |                   |         | \$128.63         |                |

### Order Notes

Procurement Quality Clauses  
A005 right of entry  
A012 chemical and physical test report  
A016 personnel qualification  
A017 raw material identification (as applicable)

A022 Apical Processing  
A024 process certifications  
A026 certification of material conformance

A041 quality management system  
A042 dart notification by supplier  
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit [www.dartaerospace.com](http://www.dartaerospace.com) for further explanation.

Plex 8/28/20 4:16 PM Dart.Guerin.Kimberley





## Certificat de Conformité / Certificate of Compliance



0 3 0 5 5 4 - 1

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9  
 Tel: 514-335-3666 Fax: 514-335-3868  
 www.groupaltech.com

## Bon de Livraison / Packing Slip

030554 - 1

Livré à / Ship to

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 Tel.: 613-632-5200 Fax.:

Client / Customer:

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 BUYER:

| Date expédition<br>Ship date |                                                                           | Créé Par<br>Generated By                                                                                                                                            |                   | Transport / No de Compte<br>Courier / Acc. No. |                 | Bon de commande Client<br>Customer Purchase Order No. |               |                        |  |
|------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------------------------------|-----------------|-------------------------------------------------------|---------------|------------------------|--|
| 28-Aug-2020                  |                                                                           | Ian Wilson                                                                                                                                                          |                   |                                                |                 | POHB046954                                            |               |                        |  |
| #Ligne<br>Line#              | No. de Série / # Pièce<br>Part Number /Line Item Details<br>Job # / Ref # | Description pièce(s)                                                                                                                                                | CATG.<br>U/M      | Comm.<br>/Ordered                              | Exp/<br>Shipped | Qté NC/<br>NC Qty                                     | Qté<br>Scrap/ | A venir/<br>Back Order |  |
| 1                            | 650.9610<br>Rev.<br><div>DAS<br/>82<br/>9-89</div>                        | 650.9610<br>01 -PASSIVATION-DICHROMATE [PASSIVATION<br>BICHROMATE ]<br>TEST ONE PART FIRST<br>PASSIVATE IAW QQ-P-35C<br>MATERIAL TYPE: 303 STAINLESS STEEL          | PASSIVATION<br>CH | 6                                              | 6               | 0                                                     | 0             | 0                      |  |
| 2                            | 651.0101<br>Rev.                                                          | 651.0101<br>01 -PASSIVATION-DICHROMATE [PASSIVATION<br>BICHROMATE ]<br>TEST ONE PART FIRST<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>MATERIAL TYPE: 316 STAINLESS STEEL | PASSIVATION<br>CH | 3                                              | 3               | 0                                                     | 0             | 0                      |  |
| 3                            | 650.7712<br>Rev.                                                          | 650.7712<br>01 -PASSIVATION-DICHROMATE [PASSIVATION<br>BICHROMATE ]<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>MATERIAL TYPE: 303 STAINLESS STEEL                        | PASSIVATION<br>CH | 3                                              | 3               | 0                                                     | 0             | 0                      |  |
| 4                            | 650.7810<br>Rev.                                                          | 650.7810<br>01 -PASSIVATION-DICHROMATE [PASSIVATION<br>BICHROMATE ]<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>MATERIAL TYPE: 303 STAINLESS STEEL                        | PASSIVATION<br>CH | 3                                              | 3               | 0                                                     | 0             | 0                      |  |
| 5                            | 654.6411<br>Rev.                                                          | 654.6411<br>01 -PASSIVATION-DICHROMATE [PASSIVATION<br>BICHROMATE ]<br>PASSIVATE IAW QQ-P-35C, TYPE II<br>MATERIAL TYPE: 303 STAINLESS STEEL                        | PASSIVATION<br>CH | 5                                              | 5               | 0                                                     | 0             | 0                      |  |
| 6                            | 654.6412<br>Rev.                                                          | 654.6412<br>01 -PASSIVATION-DICHROMATE [PASSIVATION<br>BICHROMATE ]<br>PASSIVATE IAW QC-P35C, TYPE II<br>MATERIAL TYPE 303 STAINLESS STEEL                          | PASSIVATION<br>CH | 5                                              | 5               | 0                                                     | 0             | 0                      |  |
| 7                            | 647.2511<br>Rev.                                                          | 647.2511<br>01 -PASSIVATION DICHROMATE [PASSIVATION<br>DICHROMATE ]<br>PASSIVATE AS PER MIL-S-5002 TYPE 6                                                           | PASSIVATION<br>CH | 36                                             | 36              | 0                                                     | 0             | 0                      |  |
| 8                            | 647.2510<br>Rev.                                                          | 647.2510<br>01 -PASSIVATION DICHROMATE [PASSIVATION<br>DICHROMATE ]<br>PASSIVATE AS PER MIL-S-5002 TYPE 6                                                           | PASSIVATION<br>CH | 36                                             | 36              | 0                                                     | 0             | 0                      |  |

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DART AEROSPACE LTD.

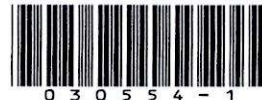
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DART AEROSPACE LTD.



## Certificat de Conformité / Certificate of Compliance



2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9  
 Tel: 514-335-3666 Fax: 514-335-3868  
 www.groupaltech.com

## Bon de Livraison / Packing Slip

030554 - 1

Livré à / Ship to

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 Tel.: 613-632-5200 Fax.:

Client / Customer:

**DART AEROSPACE LTD**  
 1270 ABERDEEN STREET  
 HAWKESBURY, ON, K6A1K7  
 CANADA  
 BUYER:

|                              |                                                                           |                          |                                                |                   |                                                       |                   |               |                         |
|------------------------------|---------------------------------------------------------------------------|--------------------------|------------------------------------------------|-------------------|-------------------------------------------------------|-------------------|---------------|-------------------------|
| Date expédition<br>Ship date |                                                                           | Créé Par<br>Generated By | Transport / No de Compte<br>Courier / Acc. No. |                   | Bon de commande Client<br>Customer Purchase Order No. |                   |               |                         |
| 28-Aug-2020                  |                                                                           | Ian Wilson               |                                                |                   | POHB046954                                            |                   |               |                         |
| #Ligne<br>Line#              | No. de Série / # Pièce<br>Part Number /Line Item Details<br>Job # / Ref # | Description pièce(s)     | CATG.<br>U/M                                   | Comm.<br>/Ordered | Exp/<br>Shipped                                       | Qté NC/<br>NC Qty | Qté<br>Scrap/ | À venir /<br>Back Order |
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**DART AEROSPACE LTD.**

Notes Additionnelles / Additional Notes

Epaisseur réelle  
Actual Thickness

Inspecteur Qualité  
Quality Inspector

Réçu par  
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.  
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.  
 Our financial and legal responsibility will not be higher than the amount of invoice.





North American Stainless Canada Inc.  
740 Imperial Road North  
Guelph, ON N1K1Z3  
Canada

## METALLURGICAL TEST REPORT

6870 Highway 42 East  
Ghent, KY 41045-9615  
(502) 347-6000

Certificate: 604137 2 Mail To: THYSSENKRUPP MATERIALS CA LTD  
Customer: 007206 001 2821 LANGSTAFF ROAD  
CONCORD, ON L4K 5C6

Ship To: THYSSENKRUPP MATERIALS CA LTD  
2821 LANGSTAFF ROAD  
CONCORD, ON L4K 5C6

Date: 5/28/2020 Page: 1

Steel: 303

Finish: ST

Corrosion:

Red Ratio: 9.8 :1

Your Order: 5400496076

NAS Order: PN 0115574 06

Heat Treat Code: 58,773

### PRODUCT DESCRIPTION:

Round Bar, Annealed, Smooth Turned, Cold Finished  
UNS 30300, ASTM A582/17 EN 10204 3.1, ASTM A484/20  
AMS 5640V TYPE 1, QQS-764B CONDITION A  
SOLUTION ANNEAL TEMP 1900F MIN

### REMARKS:

COMPLIES W/REQUIREMENTS OF DFAR 252.225-7009 EU DIRECTIVE  
2011/65/EU. RoHS. EAF+AOD+CC. NO WELD REPAIR. MELTED AND MFG  
IN USA FREE FROM MERCURY AND LOW MELTING ALLOY CONTAMINATION

DAS  
82  
9-89

| Product Id | Skid # | Diameter | Size | Weight | -----Length----- | Mark | Pieces | Commodity Code |
|------------|--------|----------|------|--------|------------------|------|--------|----------------|
| BL1676 9   |        | 2.7500   |      | 1,246  | 144.00           | 7    | 1      |                |

ANAB, ISO/IEC 17025, Certificate# L2323

### CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan)

Chemical Analysis per ASTM A751/14a

| NAS Heat | CM | C %   | CO % | CR %  | CU % | MN % | MO % | N %  | NI % | P %  |
|----------|----|-------|------|-------|------|------|------|------|------|------|
| H07K     | US | .042  | .18  | 17.02 | .37  | 1.81 | .309 | .032 | 8.45 | .032 |
|          |    | S %   | SI % |       |      |      |      |      |      |      |
|          |    | .3330 | .55  |       |      |      |      |      |      |      |

### MECHANICAL PROPERTIES

| Product Id | 1 d<br>o i<br>c r | HB<br>No. | .2YS<br>KSI | UTS<br>KSI | RA<br>% | Elong<br>% 4D |
|------------|-------------------|-----------|-------------|------------|---------|---------------|
| BL1676 9   | R L               | 179.0     | 49.00       | 88.00      | 56.00   | 41.00         |

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical  
Dept. Mgr.

KRIS LARK

5/28/2020

From: TK Materials CA, Ltd.  
Cust. DART AEROSPACE LTD  
CstAr  
Wgt.: 250 LB

Del.: 2407620921

CstOr POHB046736

Date 07/16/2020

*Thomas Lark*

thyssenkrupp Materials NA

thyssenkrupp Materials NA, 4700 chemin du Bois-Franc, Saint-Laurent, QC H4S 1A7

DART AEROSPACE LTD  
1270 ABERDEEN ST  
HAWKESBURY ON K6A 1K7



## DELIVERY NOTE



DATE: 07/17/2020  
DOC. NO: 2407620921\*  
BOL. NO: 2407620921  
ORDER NO: 1404573598  
YOUR P/O: POHB046736  
CUSTOMER NO: 10058125  
Route: 303UA  
CONTACT: Lucy Truglio  
TEL:  
FAX:  
EMAIL: lucy.truglio@thyssenkrupp.com

**MILL TEST REPORTS, PACKING SLIPS ARE TO SENT  
WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR  
TO SHIPPING.**

**ATTN: CHANTAL/LINDA**

**\*\* ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER \*\*  
\*\* REFERENCED ON IT \*\***

Deliveries are carried out for your account and risk acc. to our Gen. Terms & Cond. of Delivery and Payment.

| ITEM                                                                            | DESCRIPTION                                                                                                                           | NET QTY1 / QTY2 | PACKAG     |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|
| 0010                                                                            | SSRD00865<br>T-303 Stainless Steel Round<br>2.7500 (+-.003) X 144 Mill Length<br>Actual Chemistry/Act. Physical<br>Standard Packaging | 1               | 1011133438 |
|                                                                                 |                                                                                                                                       | PC              |            |
|                                                                                 |                                                                                                                                       | 250 lb          |            |
| <b>CERTS MUST INCLUDE TENSILE, YIELD, ELONGATION,<br/>AND REDUCTION OF AREA</b> |                                                                                                                                       |                 |            |

|                                                      |     |     |           |            |      |
|------------------------------------------------------|-----|-----|-----------|------------|------|
| TAGNUM                                               | QTY | UOM | VEND      | VENDPO     | HLOT |
| 2001764349                                           | 1   | PC  | NORTH AME | 5400496076 | H07K |
| SAE AMS 5640 V;ROHS COMPLIANT;ASTM A 582/A 582M 2012 |     |     |           |            |      |

DAS  
**82**  
9-89  
PCS --- COM  
1

Total Gross Weight 257.000 lb

All items, not declared as partial delivery, are final quantities.  
Delivery Terms: PPD gem. Incoterms 2000 Prepaid PREPAID

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JUL 23 2020

DART AEROSPACE LTD.



## PURCHASE ORDER



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER

## POHB046736



**Supplier:** THY001-VC  
Thyssenkrupp Materials CA Ltd  
O/A VPK Metal- c/o T27540  
PO Box 4275, Postal "A"  
Toronto  
ON  
M5W 5V8 Canada  
Phone: 905 669 9444  
Fax: 905 738 9033

**PO No:** POHB046736  
**PO Date:** 7/14/20  
**Due Date:** 7/17/20  
**Purchase Order Revision:**  
**Revision Date:**  
**Issued By:** Guerin, Kimberley  
Phone: 613-632-5200 Ext: 298  
kguerin@dartaero.com

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**Via:** Ground  
**Pymt Terms:** Net 30  
**Freight Terms:**  
**Special Comments:**

**E-MAILED**  
2020-07-14

## Items

| Line Item           | Job | Part       | Drawing | Supplier Part No | Description                                                                                                                     | Status | Account | Due Date | Order Quantity                 | Received Quantity | Balance | Unit Price (CAD)  | Extended Price                        |
|---------------------|-----|------------|---------|------------------|---------------------------------------------------------------------------------------------------------------------------------|--------|---------|----------|--------------------------------|-------------------|---------|-------------------|---------------------------------------|
| 1                   |     | M303R2.750 |         |                  | 303 Round Bar 2.750"<br>: MATERIAL:<br>AISI 303 SS<br>ROUND BAR<br>AS PER ASTM<br>A582<br>NOTE:304/316<br>NOT<br>ACCEPTABLE     | Firmed | -       | 7/17/20  | 12 ft                          | 0 ft              | 12 ft   | \$52.4183/ft      | \$629.02                              |
|                     |     |            |         |                  |                                                                                                                                 |        |         |          | 12 FT<br>603                   |                   |         | DAS<br>82<br>9-89 | JUL 23 2020                           |
| 2                   |     | M303R1.500 |         |                  | M303R1.500<br>: MATERIAL:<br>AISI 303 SS<br>ROUND BAR<br>AS PER ASTM<br>A582<br>NOTE:304/316<br>NOT<br>ACCEPTABLE<br>receive ft | Firmed | -       | 7/17/20  | 12 ft                          | 0 ft              | 12 ft   | \$20.3516/ft      | \$244.22                              |
|                     |     |            |         |                  |                                                                                                                                 |        |         |          | 12.5<br>FT<br>603<br>7/17/2020 |                   |         | DAS<br>82<br>9-89 | JUL 17 2020<br><del>JUL 18 2020</del> |
| <b>Grand Total:</b> |     |            |         |                  |                                                                                                                                 |        |         |          |                                |                   |         |                   | <b>\$873.24</b>                       |

*Kimberley Guerin*

## Steven Drouin

---

**From:** Tyler Cross  
**Sent:** Monday, September 21, 2020 1:54 PM  
**To:** Ketan Tailor  
**Cc:** Steven Drouin  
**Subject:** RE: 650.9610 Deviation

This deviation is not going to effect the function of the valve. As long as the Oring fits and is not damaged during installation I okay with the deviation on the groove size.

Tyler

---

**From:** Tyler Cross  
**Sent:** Thursday, September 17, 2020 12:13 PM  
**To:** Ketan Tailor <ktailor@dartaero.com>  
**Cc:** Steven Drouin <sdrouin@dartaero.com>  
**Subject:** RE: 650.9610 Deviation

Based on your messages from the teams message, I think this deviation is fine.

Tyler

---

**From:** Ketan Tailor <ktailor@dartaero.com>  
**Sent:** Thursday, September 17, 2020 11:43 AM  
**To:** Tyler Cross <tcross@dartaero.com>  
**Cc:** Steven Drouin <sdrouin@dartaero.com>  
**Subject:** RE: 650.9610 Deviation

Hey Tyler,

The new width of the o-ring groove is now 0.095-0.100 due to the increased outer diameter.

However, after rework, the 0.095 diameter gauge pin was not able to fit in certain areas of the groove.

We did a test fit with the mating 601.2939 O-Ring, and it fit perfectly in the groove.



Is it acceptable to use the Electric Valve Body, as is?

Thanks,  
Ketan

---

**From:** Ketan Tailor  
**Sent:** August-25-20 10:44 AM  
**To:** Tyler Cross <[tcross@dartaero.com](mailto:tcross@dartaero.com)>  
**Cc:** Steven Drouin <[sdrouin@dartaero.com](mailto:sdrouin@dartaero.com)>  
**Subject:** 650.9610 Deviation  
**Importance:** High

Hey Tyler,

We deviated the Safety Disc Retainer O-Ring groove outer diameter on the 650.9610 Electric Valve Body to 0.460-0.464 (as per CP markups).

After rework, the measured outer diameter ranged from 0.4593 to 0.4596 and the measured depth of the O-Ring groove ranged from 0.055 to 0.056.

Are these changes acceptable to you?

Thanks,  
Ketan

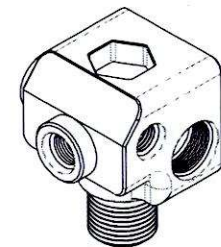
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## NOTES:

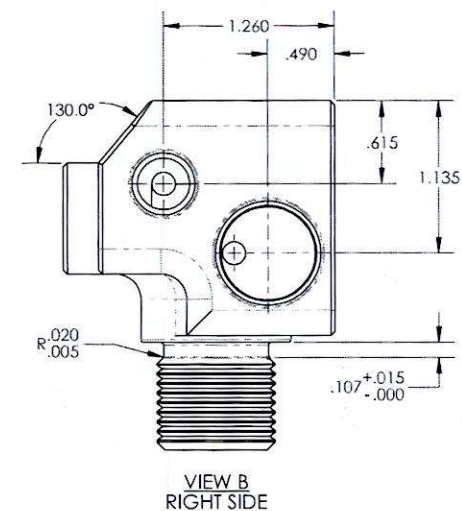
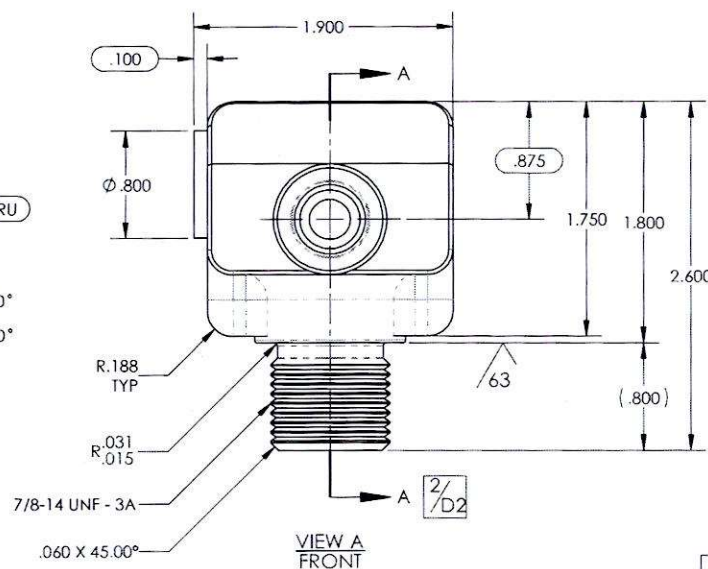
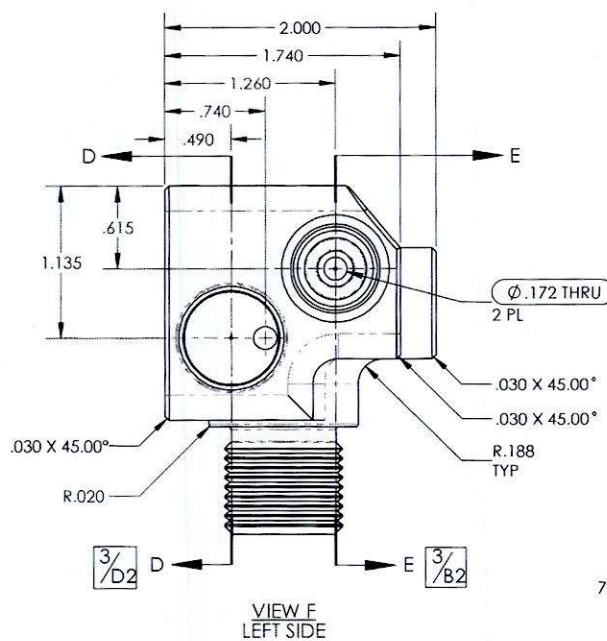
- 1 MATERIAL: 303 SS IAW AMS-5640 OR ASTM A582 (PB2)
2. DEBURR AND BREAK ALL SHARP EDGES
3. IDENTIFY IAW MPP-120
- 4 USE THREAD SIZE 3/4-28 UNF-2B
5. FINISH  $\sqrt{125}$  MAX UNLESS OTHERWISE SPECIFIED
6. ALL THREAD DEPTHS ARE MINIMUM
- 7 FINISH: PASSIVATE IAW MPP-172 SECTION 6.1.

| PROTOTYPE REVISIONS                                                 |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |
|---------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
| ZONE                                                                | REV | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DATE     | APPROVED |
| ALL<br>B1-1<br>C3-1<br>C5-1<br>C7-1<br>C8-1<br>D3-1<br>A1-2<br>B1-2 | PB1 | REMOVED +.005 TOLERANCE<br>REMOVED ELECTROPOLISH FINISH<br>ADDED R.015-.031 DIMENSION<br>ADDED SURFACE ROUGHNESS VALUE<br>ADDED R.005-.020 DIMENSION<br>DIMENSION WAS .114 IS .107+.015/-.000<br>THREAD CLASS WAS 2A IS 3A<br>ADDED .250 2 PL DIMENSION<br>ADDED .030 DIMENSION<br>DIMENSION WAS $\phi .773 \pm .005$ IS $\phi .773 \pm .002/-.003$<br>ADDED SURFACE ROUGHNESS VALUE<br>DIMENSION WAS $\phi .300 \pm .005$ IS $\phi .300 \pm .006/-.001$<br>ADDED ALL AROUND TO DIMENSION<br>ADDED R.010 2 PL DIMENSION<br>DIMENSION WAS $\phi .450 \pm .002$ IS $\phi .437-.441$<br>ADDED SURFACE ROUGHNESS VALUE<br>ADDED .084-.089 DIMENSION<br>DIMENSION WAS .050+.002 IS .050-.054<br>ADDED SURFACE ROUGHNESS VALUES<br>ADDED SURFACE ROUGHNESS VALUE | 06-01-20 | T. CROSS |
| A3-1<br>B6-2<br>B5-3<br>B6-3                                        | PB2 | ADDED ASTM A582 STANDARD<br>THREADED HOLE DEPTH WAS .214 IS .245<br>DIMENSION WAS $\phi .437-.441$ IS $\phi .440-.464$<br>DIMENSION WAS .084-.089 IS .095-.100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 08-21-20 | T. CROSS |

| REVISION |                        |          |          |
|----------|------------------------|----------|----------|
| REV      | DESCRIPTION            | DATE     | APPROVED |
| N/C      | INITIAL RELEASE        | 04-02-19 | P. BRAVO |
| A        | INCORPORATED ECH 55015 | 07-15-19 | P. BRAVO |
| B        | INCORPORATED ECH 55016 | 08-12-19 | P. BRAVO |



650.9610



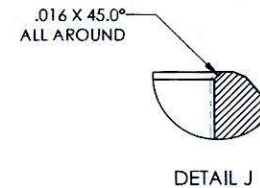
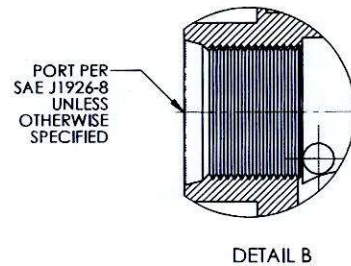
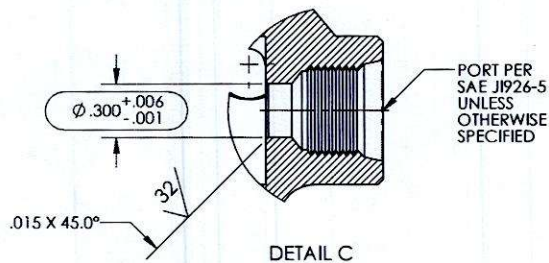
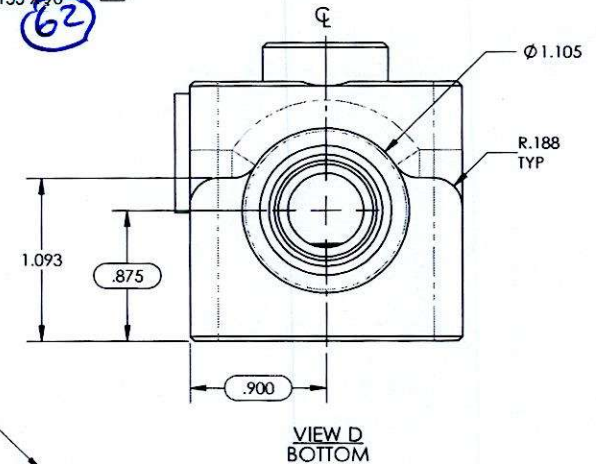
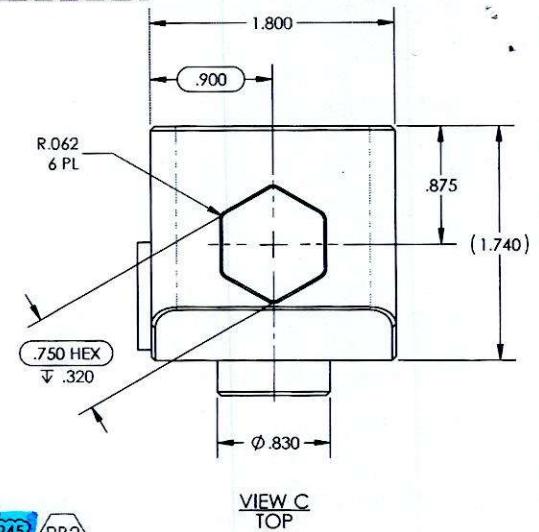
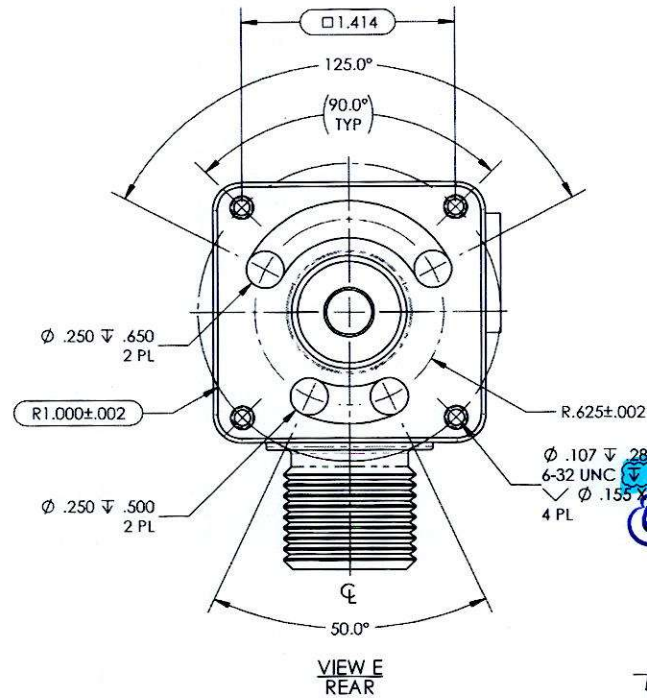
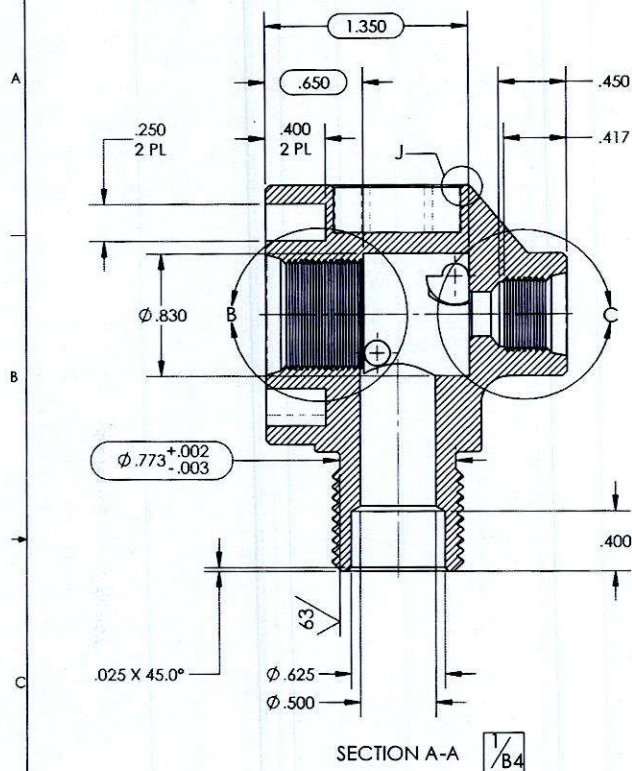
| PARTS LIST                                                                                                                                   |   |     |     |                              |
|----------------------------------------------------------------------------------------------------------------------------------------------|---|-----|-----|------------------------------|
| QTY                                                                                                                                          | I | F/N | P/N | DESCRIPTION                  |
|                                                                                                                                              | 1 |     |     | 650.9610 ELECTRIC VALVE BODY |
| NEXT ASSY (S)                                                                                                                                |   |     |     |                              |
| 650.5300                                                                                                                                     |   |     |     |                              |
| ORIGINAL DATE: 04-02-19<br>DRAWN BY: J. HICKER<br>IN CHARGE: P. BRAVO<br>DRAWING APPROVAL: P. BRAVO<br>(04-02-19)<br>CONTRACT NO.            |   |     |     |                              |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>3 PLACE DECIMALS: .010<br>2 PLACE DECIMALS: .005<br>ANGLES: .5° |   |     |     |                              |
| SEE EAGE CODE: 07M26<br>DWG NO: 650.9600<br>SCALE: NONE<br>SHEET 1 OF 3                                                                      |   |     |     |                              |

**DART AEROSPACE**  
3030 ENTERPRISE CT., SUITE A  
VISTA, CA 92081  
(760) 724-5300  
DART AEROSPACE

ELECTRIC VALVE BODY

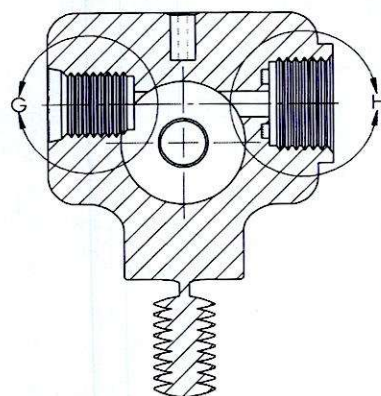


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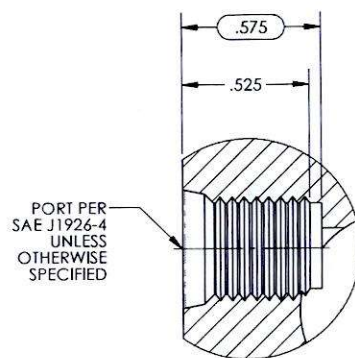


|                                                                                                                                                 |                     |                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| ORIGINAL DATE<br>10/01/15                                                                                                                       | DATE: 15            | <b>DART</b><br>AEROSPACE<br>APICAL INDUSTRIES, INC.<br>3030 ENTERPRISE CT., SUITE A<br>VISTA, CA 92081<br>(760)-724-5300<br>WWW.DART-AEROSPACE.COM |
| DRAWN BY<br>N.CAP                                                                                                                               | CHECKED<br>P. BRAVO |                                                                                                                                                    |
| DRAWING APPROVAL<br>P. BRAVO                                                                                                                    |                     |                                                                                                                                                    |
| CONTRACT NO.                                                                                                                                    |                     |                                                                                                                                                    |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ± .010<br>3 PLACE DECIMALS ± .005<br>ANGLES ± .5° |                     | SEE CAGE CODE<br>B 07M26<br>DWG NO.<br>650.9600<br>SCALE NONE<br>REV<br>PB2<br>SHEET 2 OF 3                                                        |

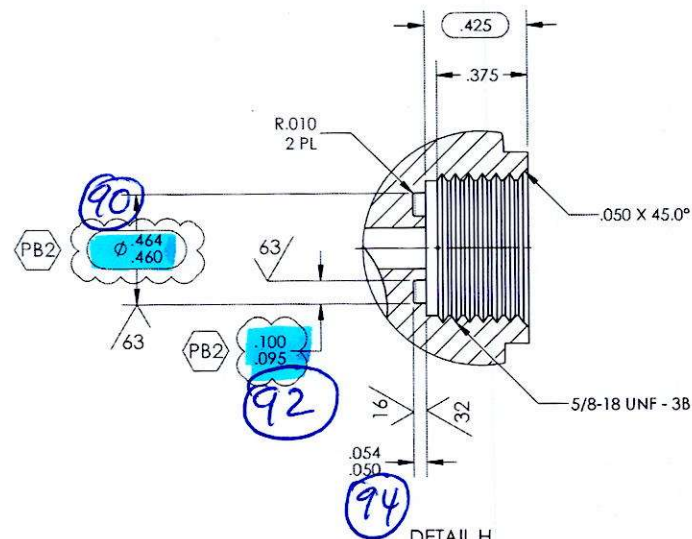
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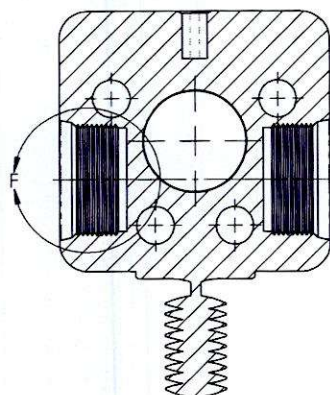
SECTION E-E 1/D2



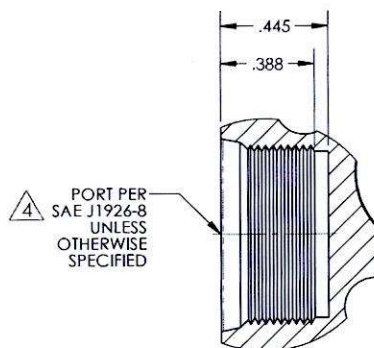
DETAIL G



DETAIL H



SECTION D-D 1/D1

DETAIL F  
2 PL

|                  |           |                              |      |
|------------------|-----------|------------------------------|------|
| ORIGINAL DATE    |           | 3030 ENTERPRISE CT., SUITE A |      |
| DRAWN BY         |           | VISTA, CA 92081              |      |
| CHECKED          |           | (760)-724-5300               |      |
| N/CAP            |           | P BRAVO                      |      |
| DRAWING APPROVAL |           | APICAL INDUSTRIES, INC.      |      |
| P BRAVO          |           | DBA DART AEROSPACE           |      |
| CONTRACT NO.     |           | ELECTRIC VALVE BODY          |      |
| SRE              | CAGE CODE | DWG. NO.                     | REV. |
| B                | 07M16     | 650.9600                     | PB2  |
| SCALE NONE       |           | SHEET 3 OF 3                 |      |